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THE
KEYSTONE
TO
SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Preparing Corn Stubble for Wheat.

W. H. Thompson, Laings, O., asks the P. F. how to prepare the land for wheat this fall where he has corn growing on a turned clover sod. We are not informed about how the corn is to be harvested, or whether seeding is to be done in the wheat for mowing next year. So the reply must be quite general. First, the more you cultivate the corn, if the work is properly done, the better your corn crop and the chances for wheat following. Stirring the ground between the rows along through the hot weather keeps a crust from forming, makes the surface mellow, lets in the air, which helps nature's processes to make more of the otherwise unavailable plant food elements in the soil ready for crops to feed on. This is easily understood and certainly true, way up to the time you drill in the wheat. Use a one-horse cultivator as long as you can get a horse through, after corn is too large to go through with a two-horse implement any more. Do not let the teeth go down more than two inches. The cultivator should have quite a number of small teeth, something like a harrow. It should be used as soon as the ground is dry enough to work after every rain, so the surface will not dry up and harden and keep the air out. Narrow the cultivator so as to not injure the corn plants. Be careful not to go on the ground when it is too wet, so it will pack where a horse steps. There will be more danger of this on some soils than others. Think what you are about, the object of the work and how the best results can be obtained. Think that you want to loosen the soil all you can, and not injure the corn roots, and to keep from packing it only when dry. As soon as you have the corn out of the way I would start cultivators between the rows and tear the ground up deeply. Use 2-horse ones, or 1-horse, as you please. Instead of narrow teeth at this time I would put on the widest you have. The more you can mix the soil up the better. Run the teeth as close to the corn as you can and not tear up the stubble. I would certainly go both ways in each row. Then use any harrows you have that will do the work best to level off the surface; and it should be packed, when dry, by using a weighted roller. I would use roller and harrow alternately until the ground was mellow and fine and thoroughly firm, but always, if possible, when it was dry. It should be as firm as it can be and have the drill cover the seed an inch deep. This mixing and rough stirring of the soil with wide cultivator teeth will make more plant food available for wheat, as a rule, than one would get from more gentle stirring. And a cultivator works nicely between the rows of corn stubble. Of course there are other tools you can use, and other ways of preparing the land, but I believe this plan can be made to bring you the most wheat for the time spent, if the work is thoroughly and properly done. Where the corn rows are straight, and of uniform distance apart from good machine planting, one can work nearly all the ground with cultivators and a one-horse drill will put the wheat in quite perfectly. Of course it is for your advantage to get the corn off, or cut, as soon as the best results in grain and fodder can be obtained, and that is usually sooner than corn is harvested. Better hire extra help, if necessary, and cut up the corn as soon as it is ready. This gives you better returns from the corn field and a better chance to prepare for wheat. Now it is too bad, but the whole truth must be told. All this careful labor may go for naught if the land is clayey and in need of underdraining. If it is properly drained, by nature or tiles, excellent results should follow, as a rule. But the more clayey the land the better the reward. The more sandy it is the less likely it will be to pay.

How to Harvest Seed Clover. — J. Buchanan, Flesherton, Ont., asks for the best way of cutting and saving clover for seed. The common way is to mow the clover and rake it into windrows the same as one would hay. Then when it is pretty well rotted, so it will hull easily, it is hauled to the huller, in the field, when it is dry and the seed is taken out. This is not a perfect plan by any means, but thousands of acres of seed clover are treated in this way every year. In the first place, horses walking over it when mowing and raking will shell out and waste probably one-quarter of the seed, or more. By mowing and raking when a little damp some of this loss can be avoided, but not all of it. Again, if wet weather continues long, with the clover lying in the windrow, the seed may sprout. Some falls I have seen many fields of seed clover that were ruined in this way. At the best it is an expensive way of doing. During the short days in the fall there are not usually many hours when the clover is dry enough to hull, so time is wasted. In exceptionally good weather all goes well, but this is a matter of luck. If I were raising much clover for seed now, I should get a clover buncher. This is a Western attachment for any mower that holds the clover behind the cutter bar until there is enough for a good bunch. Then you drop it off and go on cutting and collecting another bunch. Montgomery, Ward & Co., Chicago, offer this buncher attachment for a 5-foot mower, for $12.50. When cutting I would have a man follow the machine with a barley fork and lift the bunches, without shattering off any seed, and place them enough to one side so the team would not step on them at all when they came around again. You can have a fork make with several long and rather crooked tines for this purpose. There you have it; from one-quarter to one-half, perhaps, of your seed saved from being tramped out and wasted. This buncher leaves the heads on the outside pretty well, where the seed is not so liable to sprout in wet weather, as it dries off more quickly between rains. When you are ready to hull, or stack, the same fork may be used to put the bunches on the wagon. At any rate, handle the crop with care, and when it is not over dry and hot. It will not shell as badly in cloudy, cool weather. With a little care one need waste very little when putting the clover on a wagon. Don't jab a fork right into the dry heads on top of a bunch. Don't roll up the bunch as you would hay. Think some and make it save you seed. Put the fork in carefully, under the heads, so far as it is practicable, and lift the bunch onto the rack. Then I would stack the clover, covering each one with dampened straw, or marsh hay, so it will shed rain. Then your seed can be gathered quickly and made safe. Then you have only to throw off the damp top and put in a whole day at hulling. And you need not hull it until winter, unless you want to. When the clover is stacked it takes less help to do the hulling than it does when the crop is lying in the field. It takes more time to run through clover that is not rotted, but my plan always was to secure the crop as soon as it was well dried. One must use his judgment about when to cut seed clover. If the first heads that bloom are well filled I would not wait for the very latest heads to ripen their seed. By that time the seed in the earliest heads would shell out at a touch or jar, if dry. If the first heads are not well filled, why then it may be wise to wait longer before harvesting, hoping that the late bloom may fill better. The writer has put up in stacks many loads of seed clover after it had laid three or four days in dry, hot weather. I would only wait for it to get dry enough so no injury would come to the seed in the stack. He has covered stacks with damp straw so they stood until winter without the clover getting wet at all. It is best to put the straw on the wagon the night before, wetting down each layer with water. Simply round over the stack on top with the clover. Let it settle for days if the weather is safe. Then lay a course well out around, and each course above lapping well over the one below and well whipped down with the fork. Fasten the top on thoroughly well. Build the stacks in pairs just far enough apart so the huller can be placed between each two. Then you can hull both without moving. It is safe to say that half of the clover seed that ripens, in many sections, is lost in the various ways told above. Most of this can be saved at very slight extra expense. Is not this good business management?

Health Hints. — Not Sick, nor yet Well.—Live Properly and Make Fine Health Come.—One of our readers is 35 years old, married and has two healthy children. He is 5 feet and 10 inches high but weighs only 130 pounds. He is never sick abed, nor does he ever feel real well and strong. There seems to be trouble with his digestion; sometimes a bad feeling in his stomach from one meal to another. He says he has tried many kinds of medicine, but got no real benefit from any of them, and has made up his mind that no cure will ever come in this way. Sometimes he gains a little in weight, but soon loses it again, even when not working hard. Our friend says he always has a good appetite, but does not usually eat all he wants. He eats mostly plain food, including graham bread and bread made of corn meal. His bowels are most always regular. He is a market gardener, and so, he says, gets plenty of fresh air and exercise. He does not overwork; in fact, is more careful of his health than people generally are. He uses no tobacco or liquor. The P. F. is asked to advise in the case. Well, this is a fair example of the condition of many thousands of people. They are not sick, really, neither are they perfectly well, as one will soon learn when he becomes intimately acquainted with them. If asked directly they will always say they are well, but still they are not. These hints are written with the hope of benefiting just such cases as these, in particular. There is something wrong in this, friend's way of living; correct it and in due time he may feel perfectly well. Medicine will never cure him without the necessary changes in his habits; with these he will not need the medicine. Without a long, close, personal watching of the patient, and study of his habits, no man living can say with any certainty just what the cause of the trouble is. But I fully believe that a thorough following of all that has been given in these hints will in time give this man such health as he knows nothing of now. It will take months, and perhaps years, but the reward will be great. He is right in his prime, however, and follows a healthful occupation. This is in his favor. But he ought to weigh 170 pounds, if of ordinary build. The writer is 5 feet 10 and not large boned at all, but weighs over 170 in summer clothes. Not only ought this man to carry more flesh, but he should be strong and able to work hard and feel like doing it, too. Now, my good friend, I am particularly interested in your case, as I have felt the same way so much, in years past. At last, as the warning was not heeded, I became seriously ill. Our old family physician, who had known me for forty years, when I insisted on having his frank opinion, said he did not think I could ever be as well again as I had been before. But nevertheless I am, although it took years to study and work my way out. His idea was that certain organs were worn out. I believed that nature would correct the trouble, if given a proper chance, and she has. She can repair exhausted organs. The first thing is for you to settle it in your mind, once for all, that you are going to have perfect health in time, as surely as the years roll on. You will make mistakes and almost want to give up at times, but never let go; take a tighter grip and push on. You have fresh air in the day time, usually, but do you have it in your sleeping room as freely as I do? This is all important, the first matter for you to look after. By the way, let me advise that you sleep alone, having the whole room to yourself, and that you sleep eight or nine hours, if possible. Strength is gained by sleeping. And then do you breathe deeply and fully, having your clothes entirely loose at the waist? Look over the hints that have been given in this line. See to it that stooping at your work does not crowd your stomach and prevent its rolling movement at every breath. If in your place I should faithfully try the 2-meal-a-day plan and take at least 40 or 50 minutes to chew each one. Chew fast, but be a long time at it. I would not eat anything but plain, wholesome food. If you must indulge at times, eat pie, cake, etc., first, before your plain food. Eat fresh fruit, such as agrees with you and you like, freely at every meal. Your bowels should be not "almost always," but always regular and the movement free, no constipation whatever. This result should be brought about by the food eaten. Bathe with soap and warm water, not hot, once or twice a week, but always rinse off with cool water. A sitz bath in cold water (about 50 degrees, when you get used to it) every morning, and then a quick sponging off all over, followed by a brisk rubbing down, should not be overlooked. You can put three or four pails of water in a wash tub and sit down in it. Be careful when starting all changes and feel your way along. The stimulating effect of the bath mentioned is decided, if one works into the plan with proper caution. The probabilities are that your trouble comes largely from not breathing enough pure air, and from eating too much, or eating unwholesome food, or food not suitable to your needs and not chewing it long enough. Your appetite now may be abnormal, coming from an unhealthy condition of the stomach. Never worry. Be moderate in all things. When you begin to feel more energy, save a little and not overdo. Never ease up until life becomes a daily pleasure. May these hints encourage and help you and many others. Now, in closing, let me tell you what Charcot, the great French physician, said on his death bed, when surrounded by the foremost medical men of Paris, who were mourning the great loss to their profession: "I leave behind me four great physicians, Air, Water, Exercise and Diet." Let these great physicians heal you all, my dear friends.

T. B. Terry.

The Evolution of the Silo.

PROF. W. F. MASSEY.

Our first experience with the silo was in very expensively constructed pits under ground in which hundreds of barrels of Portland cement were used. We had not then struck even the proper proportions for the silo, and the pits were made as wide as deep. They had square corners, too, and the rule was to sow the corn thickly so that it made few ears, and to cut this immature product as rapidly as possible into the pits, tramp it down as tight as possible, and when full, to cover it with boards, and then pile rocks on to give pressure. Pressure was considered very important and many were the screw contrivanes invented for the purpose of putting extra pressure on it. All this great pressure on very green corn resulted in a slower fermentation and the production of a very sour article, the smell of which pervaded the entire premises. It was not to be wondered at that the creameries and the condensed milk factories refused to take the milk impregnated with the sour odors of the ensilage. Then, while it was easy to cut the corn into the pits the getting of it out was a serious job. The first directions were to cut the mass down perpendicularly in taking it out. I soon saw that this would not do, for the leaving of a great wall of silage simply resulted in the exposed edges getting deeply moulded, and I soon stopped this plan and raked off a portion of the whole surface daily, which was a great improvement. Then I found that on taking off the great mass of rocks and the board cover I had a black, stinking mass right at the surface, which had to be removed. I argued that this must be wrong, and that the tight cover, shutting down the hot vapor from the silage, was responsible for it. In the meantime we had gotten to planting the corn thinner and making a more matured product with an abundance of ears, and I then determined to make a radical change. So one season when my corn was extra fine I cut it a day ahead of the machine and shocked it in the field and hauled it to the cutter the following day. I went more leisurely about the work and let the mass settle a day before cutting again, tramping only enough to get it well into the corners. But the radical change was in leaving off the board cover and the rocks, and simply putting a layer of cut straw a foot deep over the top. That season I had my first ensilage that could be called sweet as distinguished from the rank, sour stuff we had been making, and that was the last of the board cover and the rock weights. That same season a neighbor, who had built an expensive stone silo, piled rocks on it until he burst the silo wide open. This same season I visited a large Shorthorn breeding establishment in Southwest Virginia, where I found that they were putting up thousands of tons of silage in simple wooden buildings made with tall posts set in the ground, and I saw, too, that they had far less loss from damaged silage than I had in the cement pits, while their silos did not cost a tithe of what mine did. I found that the cold cement walls under ground kept up a constant condensation and there was invariably a loss alongside the walls. The firm I visited, too, had cut off the corners of their square silos, and thus reduced the amount of loss. On coming to North Carolina I no longer was personally concerned with silage making, having turned my attention to horticultural matters. But the College was making silage, and had square wooden silos in the Station barn. When the new barn on the College farm was built I was much interested in the construction of the new silos. The owner of a manufacturing establishment had suggested the making of silos like a railroad water tank, but with perpendicular sides, and they contemplated making them and putting them on the market. The College silos were made of staves held together with iron hoops. They were set on brick foundations, had a roof and a hood opening into the barn, where the cutting machinery stood. Doors were made from bottom to top for taking out the silage. These silos, built by students, have been a perfect success, and were among the first of the stave silos. The round silo is the final evolution of silo construction so far as shape is concerned, and American ingenuity has devised many modifications, substituting built-up wooden hoops for the iron ones, and cheapened the construction till any-one with a saw and hatchet can make his own silo at a cost of less than $1 for each ton capacity. With the expensively constructed pits I formerly used the difficulty was to get the farmers to see that they could make ensilage, for the cost of the pits scared them off, and I had difficulty in persuading them that a cheap wooden box above ground was not only cheaper, but far better than the costly pits under ground. The final evolution comes with the finding that even a roof is entirely needless, and that an open tub will keep the silage just as well. I think, however, that a well ventilated roof is better. The corn will make its own air-tight cover if simply left alone, as the mould runs through the tops and closes it up. But it is better to use some cheaper material for a cover, and in most places cut straw is the best to be had. In the South, where cottonseed hulls can be gotten cheaply from the oil mills they make the best of all covers for the silo. When the silage has become sterilized by its own heat, the cover of the cottonseed hulls and lint will prevent the access of germs of mould from the outside. In the biological laboratory it has long been known that no germs can pass through cotton wool, and in making pure cultures we always stop the test tubes with a wad of sterilized cotton. The cover of six inches of cottonseed hulls on the silo perfectly protects the silage, and on taking it off there will not be found a particle of mould on the silage. Where this material is accessible there is nothing equal to it. Ensilage making is no longer a hurried matter, for it is found that slower filling and settling are better than so much tramping, and all that is needed in filling is to keep the mass leveled down uniformly. In the early days of ensilage making many intelligent farmers prophesied the abandonment of what they considered a mere fad, and the farmers from abroad, who had been raised to consider root crops the only true means of getting succulent food in winter for stock, hooted at the idea of feeding cattle on what they called "sour craut." But real advances in agriculture never go backward, and today the stock feeder who has not a silo is far behind the times. Root crops are good, but cost three times as much to grow, harvest and feed as the silage, while their feeding value is no greater. In our sunny climate the Indian corn plant will always surpass in feeding value any root crop that can be grown, and if English farmers could make corn silage there would soon be less of root crop growing there.

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Something About the Air.

G. S. FRAPS, PH. D.

Do you know that we live at the bottom of an ocean of air about forty-five miles deep? We breathe this air, and without it we could not live. It is almost perpetual motion, and according to the swiftness with which it moves, produces gentle breezes or terrific tornadoes. This air is very wonderful, both in itself and in its uses. Because we are familiar with it, we may regard it with little curiosity; yet its presence is necessary to the life of every plant, and every animal. Air is not a simple substance, but contains a number of kinds of matter. There is one substance in air which supports the burning of bodies, and when this substance is used up, a candle will go out in the air, and animals will die if placed in it. This substance is called oxygen, and it makes up about one-fifth of air. In the pure condition, it is a gas in which a match, or a piece of charcoal will burn more brightly than in ordinary air. If a match with only a glowing spark on the end of it is placed in oxygen, it will immediately burst into flame.

Oxygen is an element; an element is a body which cannot be broken down into other bodies. Thus, water is not an element because it can be broken down into oxygen and another gas called hydrogen. Another substance in the air is nitrogen, which makes up about four-fifths of the air. A candle or a match will not burn in nitrogen, and a mouse or a man would die in it, not because it is poisonous, but because they do not get the oxygen which they must have in order to live. Nitrogen is an element. Another body in the air is carbon dioxide. This substance is formed when coal or wood or gas or oil burns, and it is due to the oxygen of the air uniting with carbon in the substance which burns. Carbon dioxide is not an element, because it contains carbon and oxygen. When a substance burns, it unites with oxygen, and changes its form. It may disappear, but gases are formed which are invisible. Carbon dioxide is found in very small quantity in the air, but it is exceedingly important. Plants take up carbon dioxide from the air, and convert it into new forms, into plant substance, and give its oxygen back into the air. Most of the substances of which plants are composed are built up from the carbon dioxide from the air, and water from the soil, and a small part consists of mineral matter from the soil.

When a plant is eaten by an animal, a portion of it is burned up, and given off into the air in the form of carbon dioxide. The remainder is converted into flesh. Finally the animal dies, and when it decays, part of it is converted back to the carbon dioxide from which it came. The same thing happens when a plant decays, or when it is burned. Thus there is a constant circulation of carbon in nature. Plants take it up from the air in the form of carbon dioxide, and animals eat the plant, and change it into carbon dioxide, to be used by other plants. And so, over and over and over again, the air plays this wonderful part in the life of plants and animals.

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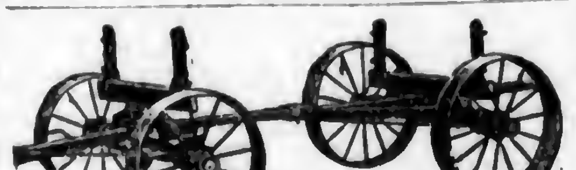

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Cabbages in Louisiana.—W. A. Scott, Lake Arthur, La.—"I wish to plant one and a half acres in cabbages the coming fall. I am renting a small piece of land of one and a half acres on which about 12 loads of ashes and 60 loads of stable manure were applied two years ago. Last winter, the fine winter grass of the South grew very rank and made a heavy sod. This was plowed under and melons were planted, and when these are off I wish to prepare for the cabbages. If I use stable manure and ashes, what will be the best way to use them for the crop. The soil is deficient in phosphates, and as cabbages are greedy feeders on phosphoric acid, what form should be used on them? As sorrel still grows on the land, would lime be of advantage?" There is nothing better for the cabbage crop than the stable manure, especially when supplemented with a due proportion of phosphoric acid. If you have ashes in plenty we would use them elsewhere on crops that especially need potash. It would be

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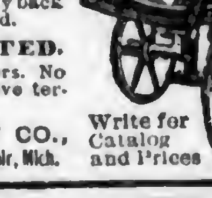

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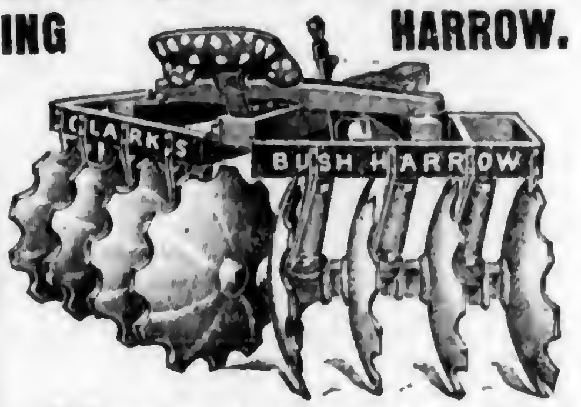

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bad policy to mix the ashes with the manure, as the lime in them would tend to carbonate and render volatile the ammonia in the manure. Applied to the soil separately no serious harm would be done, but the cabbages can be as well grown without the ashes. Put on the manure as heavily as you choose, and add to it about 500 pounds per acre of acid phosphate. The more manure you use the better the chance for the cabbage crop. The ashes will be better for onions than for cabbages.

Cutting Wheat for Hay. — W. L. Shouffer, Bell Wood, Pa.—"Please tell me when wheat should be cut for hay; that is, at what stage of maturity should it be cut. I notice in one issue of the P. F. you advise cutting wheat for hay where grass failed. Also is there any remedy for apple trees about 35 or 40 years old which are dying? The bark dies around below, then the limbs one after another, until all are dead." We fear that when this reply is published it will be rather late for cutting the wheat for hay. We cut ours as soon as the grain is fairly in the milky stage and the straw still green and fresh. Our wheat was sown for the purpose of making hay and had hairy vetch mixed with it, which added to the value of the hay. It is impossible for us to suggest a remedy for the trees unless we knew just what was killing them. It is probably some species of canker, and we do not know of any help for the trees. You had better send specimens of the shoots which are affected, to your Experiment Station at Agricultural College, in Centre county, Pa., and get their advice.

West Va. Farming.—"Farmer," Eastern W. Va. — "I have three kinds of land, sandy river bottom, limestone clay, and gravel with limestone base. I want to raise corn as many successive years as possible; want to sow crimson clover or rye in corn stubble and plow under with lime for corn May 1st. Want to run ewes in lamb to drop April 1st, on rye in fall and spring. I want to improve land, grow big crops, get good returns from rye on sheep, raise as little wheat as possible, and only grass as often as necessary. Am 40 miles from railroad. Will feed everything that comes off of land to cattle, and put the manure on land. 1. How many successive years can I grow corn on each of the three kinds of land? 2. How, where and how much lime shall I apply and when repeat? 3. When apply the manure? 4. From which will I get best results as to land and sheep, the crimson clover or rye? 5. Can I use rye and crimson clover together to advantage? 6. What commercial fertilizer can I use that will meet these conditions, including 40-mile haul, and when use it? Can I not get the proper chemicals and mix myself, thus saving the long haul? If so, what? 7. Will the green rye at any time be injurious to ewes or lambs? I will very greatly appreciate your giving me the foregoing information, and would like for you to lay special stress on the question of fertilizer. It costs us $10 per ton to haul fertilizer from railroad, and it seems to me we should be able to buy the chemicals, haul them and mix with something here and thus save hauling a great deal of weight. I will also esteem it a favor if you give me the benefit of all the advice you can along the line of crimson clover and rye, as soiling crops as well as when and how to use the lime." 1. How many years such a method can be pursued with profit can only be ascertained by actual experiment. We have known the crop of corn to rapidly improve year after year when crimson clover was sown among the corn at last working, and plowed under the following spring. This was continued for four or five years and the last crop of corn was the heaviest. There will be better results, probably, on your sandy bottom lands than elsewhere with such a course of cultivation, and the method could be greatly improved if all the manure made is applied on the gravelly uplands. As the organic matter increases in the soil lime will help matters greatly and a moderate dressing of 20 bushels of freshly water-slacked lime per acre once in four or five years will help. We would put the lime on top the plowed land just before planting corn. Some crimson clover with the rye will greatly help the pasture and help the land. 3. Apply the manure as fast as you have any on the pasture during the fall and winter, and as the top dressing between the corn rows as long as you can get in the field with a wagon. 4. As we have said, crimson clover will greatly help the pasture, as also will hairy vetch. 6. With the conditions named we do not see that there will be any need for the commercial fertilizers. You seem to have the notion common with farmers that it requires some worthless material added to the chemicals to make a fertilizer. Fillers are only used by manufacturers, to reduce the quality and enable them to sell at a low price and still get a high price for all that is of any value. To make a high grade fertilizer the materials will be as bulky and heavy to transport as the finished product, since all that is needed in making the fertilizer is to mix the materials. We think that you would do a great deal better to adopt a longer and better rotation. Follow the corn with wheat and hairy vetch, using one and a half bushels of wheat and 25 pounds of vetch seed per acre. Cut this for hay when the wheat is in the milk and you will have very fine hay. Then prepare the land well and sow the rye and crimson clover for the winter pasture, and during the fall and winter get out all your manure on this and put again in corn in the spring. An application of acid phosphate on the wheat and vetch will help greatly, but you can still do fairly well without it, for at $10 per ton freight it is a costly application. Feeding everything grown on the place, you should be able to make a great deal of manure, and we would not use commercial fertilizers at the cost you name, in such a course of farming.

Small Grain in Texas.—W. O. Goulden, Greenville, Texas.—"I have sandy bottom land that I would like to sow in wheat and oats, but they nearly always fall down badly. Cotton stalks grow very large and corn does well on this land. I use no fertilizers. Would an application of potash and phosphoric acid prevent the wheat and oats from falling? My early peas made a good growth of vines and large pods, but in many of the pods the peas were about as large as pin heads. Was this an indication that the soil is deficient in phosphoric acid? Land was manured with stable manure. Soil sandy loam. Where can I get phosphate and potash within reasonable shipping distance?" The fact that the small grains lodge is an evidence of an excess of nitrogen in the soil in proportion to the mineral matters. Kainit will be the best form of potash in such a case, as its large percentage of chloride of sodium will have a tendency to check the too rapid nitrification in the soil, and it will at same time supply potash, which such a soil usually needs. The failure of the peas to reach full size would also indicate a deficiency of phosphoric acid. I think if you apply a dressing of 250 pounds per acre of acid phosphate and 100 pounds of kainit it will help the grain on your sandy bottoms. Such soils are not usually the best for wheat, but suit oats very well. The same application will help your peas. I would suppose that you can get these things in Dallas, which is about the nearest city to you. If not, you can get them from the New Orleans Acid and Fertilizer Co., New Orleans, La., or from the Jackson Fertilizer Co., Jackson, Miss.

Crimson Clover in Tennessee.—W. H. Brooks, Atwood, Tenn.—"I have a piece of ground in corn which I am cultivating level. I wish to sow it in crimson clover for winter cover. I usually sow peas in corn at last cultivation. Would you advise that peas be sown where clover is to be sown in the fall? About what time should the peas be sown, and how much per acre? I have never sown any crimson clover." You might sow the peas, and when they ripen and the leaves begin to fall, sow the clover all among the peas. We have at times had some success with this method, but do not consider the corn the best place to sow crimson clover. We have a piece of land now in peas, but without any corn, in which we propose to sow crimson clover seed this fall, in the way we suggested, and leave the peas and clover all on the ground to be plowed in, as it is a piece of clay which we are anxious to mellow and get well filled with vegetable matter. Any time during September will usually answer for sowing clover in your climate, and you should sow 15 pounds of clean seed per acre.

Pulverized Lime. — J. Smith, South Westport, Mass. — "Can you tell me where I can get pulverized lime to drill with grain, and what does it cost per ton? Is it as good to mix with copper sulphate for spraying as the lump lime?" We could give you the address of lime burners who furnish pulverized lime but those we are acquainted with are too far away to make it pay to get their lime. If you will write to the Bowker Fertilizer Co., of Boston, it is probable that they can furnish you lime or can tell you where it is to be had. Freshly pulverized lime will be just as good for mixing Bordeaux mixture as the lump lime.

Alfalfa on Lands Subject to Overflow.—"C. R.," Sheshequin, Pa.—"Your Experience Pool on alfalfa certainly is very interesting, but would be still more so to all your readers having valley lands subject to river or creek overflows, sometimes lasting two or three days, to have information, as reliable as possible, as to whether such overflows will not seriously interfere with the growing of this crop. It would please me very much to see a goodly number of answers to this question." So far as the observation and experience of the Editor goes, he would say that the effort to grow alfalfa under such conditions would be certain to fail. If any of our readers have succeeded in growing it under such conditions we will be glad to have them tell their experience.

◆

Advance Fence Buying. — In the face of all comers, the old reliable Advance Fence, which is seen advertised in our columns year after year, stands immovable. It has the reputation also of standing equally well against storms, extremes of weather and the incursions of all farm stock. Another item for which Advance Fence stands—one highly appreciated by the farmer—is low price. The company manufacturing the Advance Fence is the one notable concern which has long been selling their entire product direct to the farmer and builder, and does not allow a pound of it to go through the hands of jobbers and dealers. This secures to all the same uniform, low price, the consumer getting the benefit of all profits and commissions, which in other forms of marketing, must go to increase the price. Considering the undoubted high quality of the fence, the staidness of the manufacturers, the principles so rigidly adhered to in the selling and the very reasonable prices which are always made to prevail, there is little wonder that Advance Fence has reached so great a popularity. Our readers are familiar with the advertisement. It pays fence builders to get in touch with the company when getting ready to buy. Write the Advance Fence Co., 141 A St., Peoria, Ill., and mention P. F.

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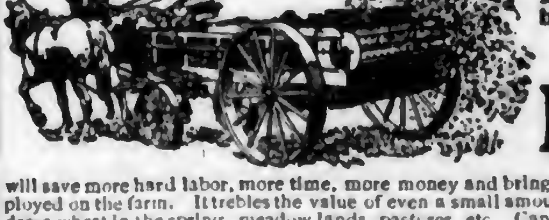

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Home-Grown Rations for the Dairy Cow.

PROF. A. M. SOULE.

Feeding the dairy cow would be a comparatively easy matter were it not for the difficulty experienced in securing a sufficient amount of protein to supply the heavy demands made on her system in the production of milk. Cheap and abundant fodder crops can be grown with comparative ease to supply the more bulky part of her ration, but the protein needed is much harder to provide in a desirable form at a price within the reach of the average dairyman. The abundance of cotton seed meal in the south should offer a happy solution of the difficulty, but there are many places where freight rates make cotton seed meal quite as expensive as in the States of the far Northwest, and then it frequently happens that the dairyman does not see his way clear to pay out a large amount of money for cotton seed meal, for as the old axiom puts it, "a dollar saved is a dollar made." So it is to his interest to discover, if possible, a means by which he can produce the needed protein on his farm, and thus save the heavy drain on his resources required by the purchase of cotton seed meal or some other concentrate rich in protein.

In the sections where cotton seed meal is particularly abundant and so comparatively cheap, these suggestions may seem to have but slight application, but the reader must remember that the best results in feeding dairy cows come from a combination of concentrates rather than from the exclusive use of one, no matter how rich that may be in the elements most needed for the economic production of milk. Cotton seed meal has now been fed long enough to establish its virtue as a feed for dairy cows, but it has also been shown that it is unwise to employ it exclusively for that purpose, as it is so rich, not only in protein but in fat and other constituents as well, that it has a tendency to produce various derangements of the cow's system entailing serious losses that can easily be avoided if the meal were employed in a rational manner.

These statements are not meant to disparage the use of cotton seed meal; far from it, for it is the most highly concentrated food stuff produced in the United States, and it should be so completely used by the Southern farmer that there would be no surplus for sale beyond the borders of the State producing it, but in order that it may be employed with satisfaction and with the greatest profit, its utilization must be along lines in harmony with the needs of the animal's system.

Fortunately our soils are adapted to the culture of several of the most important legumes known to mankind. Among these the one that stands out preeminently is the cow pea. It is well adapted to an immense territory and can be utilized to advantage in more ways than any other legume, and besides making a most excellent hay, rich in protein, it has the power of materially improving the mechanical condition and the crop-producing power of the land, an item of the most profound concern to the farmer who has been somewhat careless with regard to such matters and has sold his cotton seed to the oil mill because of its ready cash value, though failing to return to the soil in some other form the equivalent of the plant food thus removed. As a result, the fertility of much of our land has been seriously impaired, and so it is a particularly happy coincidence that the cow pea can be employed to rehabilitate the soil, produce a hay rich in protein which combines most happily with cottonseed meal as a feed for dairy cows, and can even be used to advantage as a substitute for wheat bran or cottonseed meal under certain conditions.

According to the experiments recently completed at the Tennessee Station, the dairyman can employ cottonseed meal and cow pea hay as grain feeds for his dairy cows, and thus grow all the concentrates needed on his farm, a matter of the gravest importance. Milk being particularly rich in nitrogenous substances makes it essential that foods rich in these elements be employed as a part of the ration, for the dairyman in order to be successful must have an abundance of cheap food at his command, and this applies both to roughness and concentrates. It is generally conceded that some concentrate must be bought. The smaller the amount required and the less expensive the substance employed to secure the most profitable returns, the more material the advantage becomes. It thus appears that our dairymen have a phenomenal advantage in that they can so frequently utilize a home-grown ration. Wheat bran has long been considered one of the standard foods for the dairy cow. Its abundance, especially throughout the best known dairy sections, and in the wheat belt as well, has hitherto made it comparatively cheap and abundant, and its fine physiological action has tended to increase its favor. As the Middle South is now a large wheat-producing section and the tendency is to increase the acreage of that important cereal, wheat bran is likely to remain in favor with the dairymen if the millers will make the price such as to warrant its employment on the dairy farm. The tendency of the times is to raise the price of bran until it becomes even more expensive than cottonseed meal, and under such circumstances it is doubtful if the dairyman can afford to employ it as extensively in the future as in the past if prices remain as at present. As cottonseed meal, cow pea hay and wheat bran are the most important protein producing crops which can be employed to advantage by the dairyman, the purpose of the investigations was to compare as far as possible the utility of different combinations of these feeds, it being generally admitted that two concentrates must enter into the ration of the dairy cow to give the best results.

It will be interesting to learn how the cow pea ranks as a protein producing crop, as several feeding experiments have shown that alfalfa is about equal, pound for pound, to wheat bran. In order to do so, the following table was prepared exhibiting the amount of dry matter, protein, carbohydrates and fat and the nutritive ratios of alfalfa, cow peas and red clover, legumes which can be grown with the possible exception of alfalfa, pretty generally over the whole Appalachian region, when compared with some standard hays:

Hay from	Dry matter lbs.	Protein lbs.	Carbohydrates lbs.	Fat lbs.	Nutritive Ratio
Alfalfa	1832	211.6	746.6	27.6	1:3.6
Cow peas	1786	215.8	768.0	30.2	1:3.9
Red clover	1694	131.6	707.0	33.2	1:5.9
Orchard grass	1802	95.6	838.0	28.0	1:9.5
Timothy	1736	57.8	874.4	28.6	1:16.2
Kentucky blue grass	1576	95.2	746.6	30.0	1:8.9

It is noteworthy that a ton of cow pea hay is slightly richer in protein, carbohydrates and fat than a ton of alfalfa hay, while it contains 83.2 more pounds of protein than red clover hay, 61 pounds more of carbohydrates, though 3 pounds less of fat. The nutritive ratio of alfalfa is 1:3.6, of cow pea hay 1:3.9, of red clover 1:5.9. Compared with standard hays, such as orchard grass, timothy and Kentucky blue grass, any of the above legumes are seen to be infinitely richer in the food nutrients suitable to the production of milk. So it seems clear that by employing proper rotations and utilizing some one of the above legumes, probably the cow pea, owing to its being a practically sure crop and its wide adaptability, the farmer can, by using cottonseed meal, produce an abundance of protein foods for his dairy herd.

Tennessee Experiment Station.

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Death of Pigs.—What was the matter with my pigs? Had them running out all spring, the last two weeks in clover. I have fed no corn. Sweet milk and shorts was their ration twice per day. I fed in evening as usual, all hardy and well, next morning all dead but three. One of them also sick, but now all right. I made examination of one, found stomach full of clover, but no milk or shorts of the evening feed. Small intestines seemed empty. Hog was in good order, would weigh about 75 pounds.
Crab Tree, Pa. WM. W. KEBLAN.

There is nothing in your letter which would give a clue to the cause of death of these pigs. As the post mortem examination did not disclose anything amiss we would suggest that the pigs may have been killed by lightning. You will remember if there was a storm and whether pigs could not have had the electric fluid carried to them by a wire fence. This is a common cause of sudden deaths in summer. We recently saw a picture of twenty-one 2-year-old steers lying dead by a fence where they had been killed in this way. You do not say how many pigs died, but we take it that there were quite a number, and in that case we cannot account for the loss except as above suggested. Would be pleased to hear from you again regarding this matter.

Boil. — Ringworm. — Thriftlessness.—1. Kindly advise for a hard oval enlargment in a teat of a valuable cow two weeks fresh. Not very sensitive. Does not seem to affect flow of milk. 2. Also for skin trouble of a horse. The hair falls as this spreads slowly from spots that started on short ribs and on top of rump. Irritating pimples pass along. Does not annoy horse much. Would it carry by use of same harness to other horses. Epsom salts in feed and fish pickle outside holds it in check, but shows up fresh as soon as we relax application.
Leaman Place, Pa. E. ESHLEMAN.

1. We take it from your rather meagre description that a boil is forming on side of teat, a condition which usually indicates blood out of order. Give a pound dose of epsom salts with one ounce of ground ginger root as one dose, dissolved in two quarts of warm water. After this has acted follow with two ounces of hyposulphite of soda twice daily in feed or drinking water for one week. Bathe the tumor with hot water twice daily and open it with clean lance when soft. Afterwards syringe it out twice daily with carbolized warm water and then a mixture of one part peroxide of hydrogen and two parts water. If the teat becomes too sore to milk by hand withdraw milk by means of a clean milking tube, which may be procured through druggist. If we have failed to properly understand your inquiry please write again. 2. This is probably ringworm, or may be parasitic mange, and in either case is rather difficult to cure in horses. Cleanse part by scrubbing with hot water and soap, then scrape with blunt knife until ready to bleed, at which stage rub in a little iodine ointment, which may be repeated every two days until well. Internally give half an ounce of Fowler's solution of arsenic twice daily with syringe in mouth. Continue until skin is in good condition, then gradually lessen dose daily until in a week he is made to do without this medicine, which should never be stopped suddenly. 3. You should have stated age of horse. If he is under five years he is cutting a number of molar teeth and consequently cannot masticate food properly; worms, too, are a common cause of thriftlessness in young horses. If he is age alluded to, lancing gums over cutting teeth is beneficial where it is seen that gums are red and sore. Do not feed corn, but substitute crushed oats, bran and dried blood meal along with good prairie hay or grass. If there are evidences of worms give one or two ounces of turpentine in a pint of raw linseed oil and follow with one drachm of dried sulphate of iron night and morning in feed for adult horse and slightly less if he is under 5 and over 3 years of age.

Mange.—A fine dog has a breaking out, looks just like a scald, and he keeps scratching all the time.
French Lick, Ind. J. W. PATTERSON.

The dog is affected with mange or eczema. If it is on the back near tail it is most probably the latter disease. If it affects the entire body and affected parts are red it is mange. If he is fat put him on a bread and water diet and allow lots of exercise. Twice a week give him a one or two ounce dose of epsom salts in water and other days mix ten grains of saltpetre in his feed three times daily. Wash and scrub him thoroughly with tar soap, then wet him all over with a 1-50 solution of Chloro-Naptholeum and when nearly dry rub flowers of sulphur into all affected parts. This washing should be done at least once a week. Write again if you should require further advice.

Malignant Growth.—Please inform me what to do or put on a cancerous tumor on a mule's leg. It is midway between the knee and shoulder on outside of front right leg. Has had it about three years; has been treated, pinched off and reduced by medicine to some lower than the skin, but now for a little more than a year I have not touched it, and it is about the size of a large fist at present, and red. He licks it, then it is a pale color. Some blood drops from it sometimes.
Shippensburg, Pa. HORACE C. BARNER.

The proper way to handle this matter would be to throw the mule and have the growth cleanly dissected out, then burn the wound with red-hot iron, or cauterize by swabbing with a solution of two drachms of corrosive sublimate and one drachm of hydrochloric acid in an ounce of water. The sore is known as "summer sore" and is due to a fungus known as "botryomyces." In winter such sores usually dry up, but nothing will cure them in summer unless it destroys the fungus, which is difficult to accomplish. If you cannot have the growth removed by operation then cleanse part thoroughly, rub up a drachm each of sugar of lead and arsenic in just enough lard to make a paste. Spread this on the sore after smearing surrounding parts with lard. Tie mule so he cannot bite part. In two days there should be a large scab or slough which may be removed and the paste again applied if necessary. After sore is cut down level or lower than skin, dress part twice daily with an ointment composed of iodoform, 1 drachm; tannic acid, 2 drachms; lard, 1 ounce; mix. Muzzle mule or tie high so that he cannot bite part during treatment. For skin disease give him half an ounce of Fowler's solution of arsenic night and morning with small syringe.

Tumors.—What is the cause of lumps on the young pigs' heads when they first come? I have a young sow that had pigs; two of them have lumps on their heads, as large as hulled walnuts. They seemed thrifty when they first came, but after a month or so they got the staggers and died.
DeGraff, O. F. DICKERSON.

You do not describe location or contents of "lumps" referred to. We sometimes find in all young animals cysts, which are found to contain hair, teeth or similar objects apparently not utilized in forming of foetus in womb. Such cysts may be opened and evacuated after which they give little trouble if parts are kept clean and disinfected until healed. It may be that pigs referred to here had such cysts, but they would have nothing whatever to do with later fatal attack of staggers which was due to indigestion or worms.

Lameness.—When I began to work mare it seemed to sore her up a little, but not much. She has been getting lame in the front leg for a month; seems to get worse. Her feet are in first-class shape. I think she has rheumatism. 2. Has a bunch on the point of her shoulder where the collar comes, that gets larger; has got to be a little raw sore in the centre of it. Can you tell me what to do for it? C. B. SMITH.
Millerton, Pa.

1. From the history of the case furnished, but all of which we do not publish, we judge that she was foundered slightly in the first place, years ago, but the condition now present suggests rheumatism, as you also think. Clip hair from hoof heads of both forefeet and blister with powdered cantharides, two drachms; biniodide of mercury two drachms; lard, two ounces; mix. Rub it in for fifteen minutes by the watch. Tie her so she cannot lie down or bite parts. Wash blister off in 48 hours, then apply lard daily. While being blistered feed her on light diet of bran mashes and a little oats along with hay, but do not feed corn. Each time she has an attack of lameness give her a drachm of iodide of potash and half drachm powdered colchicum seeds three times daily in soft food. If she is quite lame when you start to blister her it would be well to give this treatment but not if she happens to be in foal, as it would likely cause abortion. Have hoofs trimmed to proper proportions and shoe with wide-webbed bar shoes fitting to walls only at ground surface. Pack with tar and oakum and leather sole if her feet are tender below. 2. While she is being blistered the sores on shoulders may be cured by dissecting them out and afterwards treating with a solution of sugar of lead, one ounce; sulphate of zinc, six drachms; carbolic acid, two drachms; water to make one pint; shake well when using and apply a little often. If you do not care to cut, which is by far the best treatment, wet the sores well several times daily with a solution of two ounces of tincture of iodine in 4 ounces extract of witch hazel.

Obstructed Teats.—Please give remedy for obstructed teats in milch cows. Have had trouble of that kind with two cows recently, and each lost the use of one teat.
McVeytown, Pa. J. R. STIN.

When a cow dries up a wart-like growth sometimes appears near end of teat obstructing the milk duct and is not discovered until she is again fresh. It seems to us that the cause of this growth may be at first a clot of curd which finds its way into end of duct and there decomposes, setting up inflammation and the throwing out of an inflammatory exudate which organizes later into the form of a small fibroid tumor. That, at least, is the nature of the tumor usually found at this location, but a similar tumor may form at juncture of teat and udder, and this is most troublesome. Where the obstruction is at the end of the teat it is easily remedied by passing in a teat bistoury and springing its hidden knife and cutting in four different directions against inside lining of teat. The teat bistoury or slitter is in the form of a large milking tube having a small knife blade or rod passing up the hollow of tube and the latter has a slit in its side through which the knife may be made to project by simply pressing up the rod. After slitting it will be found that the teat is as easy to milk as the others, although the milk sprays at first. After treatment consists in milking a little often or inserting a lead dilator between milkings until wounds have healed. Care must be taken to have the instruments perfectly clean, else inflammation may be caused. It is well also to give a one-pound dose of epsom salts in two quarts of warm water just before operating; also to foment the udder with hot water twice daily should signs of inflammation appear, but, as a rule, there is very little danger in operating. Where the growth is high up it is best to use a milking tube for withdrawal of milk, as it is dangerous to use the slitter here. We have succeeded in removing some polypi (tumors) of this part by doubling a piece of very fine brass wire passing it through a milking tube, the end of which has been filed open, then passing the tube into the teat, shoving up the noose of wire and fishing for the tumor, which, when caught in the noose, may be removed by twisting to tighten wire, which is then to be pulled upon.

Blind Staggers.—1. Please give me what information you can regarding treatment of horse with blind staggers. Also, would a horse fed on oats be as susceptible to this disease as though he were fed on corn, other conditions being equal? 2. Also please give treatment required to rid a horse of worms.
Fort Pierce, Fla. E. S. WILLIAMS.

1. It would have been more satisfactory had you described what you term "blind staggers," as there is a difference of opinion as to which ailment should be so designated. Some apply the name to "megrims," in which trouble the animal suddenly rears up, falls over, is insensible, as in a faint, and recovers when unharnessed and cold water is dashed on the head. This comes from either a rush of blood to the head, or from the opposite condition, bloodlessness of the brain, due to a tight collar when pulling a load up a hill. In the other form, which we consider true blind or stomach staggers, the animal becomes frantic or sleepy, staggers about, stands with head jammed in corner of manger with feed unchewed in mouth, may try to climb wall, and has evidently indigestion. In such cases, which often come on suddenly when animal is at work, bleed (four or five quarts) from jugular vein at once. This helps if done immediately, but is injurious later. Follow with a quart of raw linseed oil, or an ounce of freshly pulverized Barbadoes aloes dissolved in oil or water and given as a drench. We prefer the raw oil. Place cold water pack on poll of head, or use crushed ice in bag. For craziness give one ounce chloral hydrate dissolved in a quart of flaxseed tea or slippery elm bark tea and injected slowly and gently into the rectum. Bromide of potash in same dose may be given by the mouth in a little water in place of chloral when symptoms are not so urgent. Follow the action of physic, if animal is still "dummy," with a drachm dose of iodide of potash three or four times daily in water and feed soft food. Oats are less liable to cause staggers than is corn (in warm weather) or any sudden change of food. 2. For worms give two ounces of turpentine in a pint of raw linseed oil on empty stomach and follow with a drachm of dried sulphate of iron in feed night and morning for ten days, then skip ten days and repeat. If animal is poor add to the iron two drachms of ground gentian root twice daily. Avoid low, wet pasture, or hay from such lands.

Deafness.—I have a horse 12 years old, that is deaf in both ears. S. H. ROGERS.
Creedmore, N. C.

Unless tympanum of ears was ruptured horse should regain hearing in time. Clip hair from poll of head just back of ears and blister with cerate of cantharides or one drachm each of powdered cantharides and biniodide of mercury in an ounce of lard. Do not drop anything in the ears, as that will simply aggravate matters. Feed soft food and give one drachm of iodide of potash three times daily for a week.

Goitre.—1. I have a young cow, just had her second calf, which has two small, hard but loose lumps, which seem to be on the windpipe nearly under the jaw. 2. Have a steer calf which was born last fall and has lately got stiff in the cords of its legs; it walks mostly on its toes, and froths at mouth if he is run. Does not move any more than he can help. 3. What is the best for a collar bruise on a horse's shoulder?
Carstairs, Ala. J. FARRELL.

1. The small enlargements mentioned are of the thyroid glands and constitute goitre or bronchocele, but there is no danger and they should be let alone. Sometimes the enlargements become of large size, and in that case tuberculosis is to be suspected, but in this case we fancy there is nothing to be alarmed about. Watch the tumors and blister them if they tend to grow. 2. We are suspicious that tetanus (lock jaw) may be present, and in that case the haw of the eyes will protrude over the eyeballs when you raise the animal's head. Put the calf in a box stall and administer a half pound dose of epsom salts in a quart of warm water if constipated and able to swallow. At the same time you may find that the mouth is full of ulcers or the tongue swollen and hard, in which case, after giving purgative would swab the mouth twice daily with a solution of one ounce of borax or alum in a quart of soft water and give iodide of potash in half drachm dose twice daily in water. 3. You should have described collar soro as there are many different forms requiring special treatment for each. Try wetting it three times daily with a solution of two ounces of tincture of iodine and four ounces of extract of witch hazel. Also apply an ointment of one drachm iodoform and two drachms tannic acid in an ounce of lard if a raw sore which becomes sore when harness chafes.

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The Best Blister and Spavin Remedy.
ST. FRANCISVILLE, ILL., Oct. 14, 1901.
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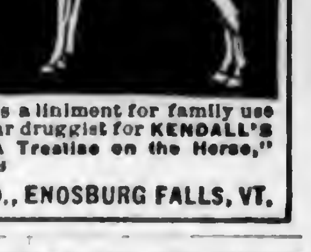

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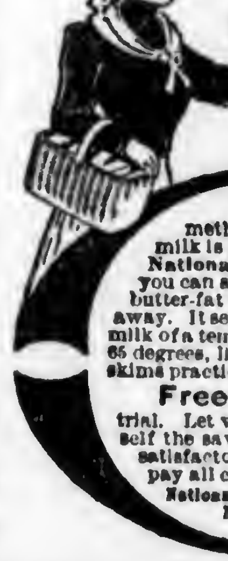

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

The Cucumber Beetle.—It does not seem to me that we have made much progress during the last dozen years in regard to ways and means of conquering the yellow striped cucumber beetle. This enemy gives to gardeners as much trouble, and causes as much damage as ever. And yet what a lot of suggestions and recommendations how to keep it off our vines are constantly being made and published. One of our lady readers (in Utica, Ohio) tells me on a postal intended for the Short Cuts columns, to add a tablespoonful of saltpetre to a pailful of water, and pour a pint or so around each hill. A reader in Monmouth, Ill., also sends a postal for the Short Cuts, in which he says a piece of paper suspended on a string from the top end of a short stick in such a way that the paper will swing in the wind back and forth over and through the plants will scare the shy little bugs away. A reader in Mt. Clinton, Va., keeps his vines free from these beetles by stirring a lot of hen manure into water, leaving this standing until it develops an exceedingly rank smell and then sprinkling this liquid over the plants and hills every morning, if beetles are numerous and hungry. All these are old remedies and more or less effective if the beetles do not come in regular swarms, as they often do. I see it stated that the yellow striped cucumber beetles congregate in large colonies (as also do the lady beetles) and they move to their feeding grounds all at once, led on by scouts. When they do come in swarms, the plants will have to suffer, and often very severely, notwithstanding all applications, poisonous, bad smelling or otherwise. Land plaster, sprinkled over the vines, often helps to drive the beetles away from them, and so does tobacco dust, or bone meal, or a mixture of both. Some people try to keep the beetles away by planting a circle of radishes, or beans, or possibly something else, around the hill, or setting three or four onion sets or plants in among the cucumbers, melons or squashes. All these things may help some, but they are no absolute protection so far as I have seen. This year I keep my vines thoroughly sprayed with Bordeaux mixture and paragrene or "disparene," and this also is some sort of protection, not only against the beetles but also against blight attacks. Mr. Purdy (I believe it was he) says in Tribune, that a simple device is to put a small stake in the centre of the hill, and to drop over this mosquito netting large enough to cover the hill. A small board frame set around the hills of melons, etc., and kept there till filled with the vines, gets the melons a week or so earlier by keeping off cold winds, and thus diminishes their chances of being attacked by beetles and bugs.

Early Strawberries. — I have known of Michel's Early strawberry for a good many years, and yet I have never had it on my grounds before this year, simply because some high authority had told me once, years ago, that the Michel is a poor berry and not very productive. It was said to yield a moderate picking or so of undersized fruit of bad color (light) therefore hardly worth space it occupies. That piece of information has cost me a good deal of solid enjoyment. I planted 50 Michel's Early in my home garden in 1902, setting the plants 4 feet apart in the row. Now I have a matted row 3 or 4 feet wide and 200 feet long, and I have had strawberries on my table in greatest abundance for a week or ten days before any other variety began to ripen. In short, the Michel has added a week or more to my annual feast of strawberries. It is not a first-class berry, and not of large size nor high quality. But it is a strawberry, and when you have the choice between having none or the poor stuff one often finds on the market at this time, or the Michel, you are not likely to find fault with the Michel. Now that we have Brandywine and other large and good sorts in great abundance, the Michel vines are still heavily loaded with fair sized berries (all strawberries here are unusually large this year, on account of the frequent rains during the ripening season). We now leave this patch for our "poor relations" to pick over (poor because not so well provided with strawberries as we are), and they find no fault with Michel either. But a few days ago I was in the strawberry test patch connected with the Ontario Agricultural College and Experiment Farm, at Guelph, Ont. Prof. Hutt told me he had discarded the Michel long ago, simply because in the Van Deman he has a much better berry, and a better yielder of the same season as the Michel. Now I suppose I shall be dissatisfied with the Michel and get the Van Deman. The latter was a good berry as I saw it at Guelph, no doubt, and I will have to try it. On the whole, however, our berries for money are those of the regular and late season, the Brandywine being one of our best for near market and for show. It is good for the table, good for canning and quite prolific. Even the old Wilson is here a profitable berry, and Gandy, under high cultivation, has proved one of the best for money. The late berry usually catches the biggest prices.

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Current Comments.

The Bean Weevil.—A reader inquires about the life habits of the bean weevil, and how best to fight it. Mr. E. P. Powell, in Tribune, makes the following remarks about this pest: "There is hardly any pest of more ability to do mischief in the vegetable garden than the bean bug. It is entirely distinct from the pea bug, and much more offensive. It is a foul-smelling creature, and everything smells that it touches. The eggs are laid in the field, and in this way the larvæ is likely to be put away in our bean bins or bean sacks. When it hatches it not only devours, but goes on propagating its species until the whole bag of beans is a nasty mess of bugs and green grit. The weevils will live and feed in a bag of beans for a year or more. It is said that a few drops of coal oil in a bag will put an end to their development. I am sure that bisulphide of carbon will kill them. When I find a sack infested I place it inside a tight box and expose it to the fumes for twenty-four hours. It will kill eggs and larvæ and bugs. Be careful in the use of this stuff not to breathe it. Be careful also not to have this substance near a fire, or to light a match near it."

Subduing a Fence Row.—A reader in Lawrence county, Pa., writes that he has a fence row that is foul with briars and stones. He desires to know how to roll the barbed wire up expeditiously, how to draw the staples from the posts, how to draw the posts from the ground, all to be done safely and economically. Also where he can find a mould-board or ditching plow that will plow through the briars and stones. The fence is half a mile long, and he wants to raise potatoes in this fence row. He thinks he has a big job on hand. So do I. Our Short Cuts columns abound with devices for rolling up barbed wire, pulling posts, etc., and the matter of pulling staples and the selection of a proper claw or other tool for such purpose may well be left for the exercise of ordinary common sense in each individual case, and according to special conditions and requirements. Look up the Short Cuts columns of back numbers of the P. F., or search the pages of those volumes of the P. F. Library which contain collections of Short Cuts. The volumes can be had from The Farmer Co., of Philadelphia. To pull the stones out of the fence row, and from among briars, I believe a double iron hook or prong would be just the thing, and the briars may then be cut down with a brush hook, and finally plowed out with any good common plow. Of course all this means work, and possibly "a big job." But if well done, growing one potato crop on the fence row will pay for all, and leave the strip in best possible condition after one year's work besides.

The Cut Worm Pest.—Geo. W. Grass, Marmet, W. Va., writes: "Please tell me how to destroy cut worms on my tomato plants. Nights have been cold. On looking over plants in morning I find five and six plants cut down. I destroy the worms, but cannot entirely exterminate them. Plants are cut down as before." One way of getting rid of cut worms is to poison them, but this should be done before the plants are set out, and while the field is yet bare. Take pieces of sod on which the grass has nicely started, and sprinkle this with Paris green, either by dusting or by spraying poisoned water on them. Any other arsenous compound, paragreen, disparene, etc., may be used in place of Paris green. Of course, it would not be safe to scatter such poisoned sods around where poultry have free access. But if such sods are placed at intervals of a rod or so all over the field, the cut worms will most likely be greatly reduced in numbers, if not entirely destroyed, within a few days. You cannot reasonably expect to get rid of every cut worm on a large field in one season, no matter how thoroughly you hunt them up where plants are destroyed. But if you will continue the fight, the worms will get very scarce within a few years' time. Leave no grassy margins in the fall, no green stuff in or near the field to winter over, plow in the fall, and continue this for a couple of years, when you will most likely have a field free from cut worms.

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Notes from a Carolina Garden.

We still have strawberries on the table the 19th of June, from a bed that gave us ripe ones the third week in April, and there are now green fruit and blossoms on the plants. The everbearing nature of strawberries in the South is always a source of wonder to those who are used to the short season with them in the North. In Eastern North Carolina they often make a late fall crop worth shipping, and last fall in November and December there were hundreds of crates sent North and brought fancy prices. With irrigation it would be perfectly practicable to have strawberries all summer through, here.

In the flower garden the gladiolus flowers are now the chief attraction. The wonderful beauty and variety in the Groff Hybrid Gladioli makes them very attractive, and there are no bulbs that increase so rapidly. From 100 corms bought two years ago we now have thousands, and it would seem that their culture could be made profitable here, though a few years ago one of the large dealers told me that he sent 20,000 bulbs to a North Carolina tuberose grower, and that after three years trial he had fewer than he started with. It was certainly the mismanagement of the grower rather than the soil or climate, for here they threaten to become a weed, since the winters do not hurt any left outdoors, and where we lifted the bulbs last fall and tried to get every offset, they are now as thick as they can stand on the ground. One of the results of the peculiar season is that the cosmos, which generally blooms in the late fall has been blooming since the middle of May profusely. The dry weather in May gave the plants such a check that they went to blooming. But I noticed the same thing in Alabama lately, where they had not been afflicted with drought, the plants being grown from seed of flowers that bloomed in Oct. and Nov.

A Fine Kidney Remedy.
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Autumn Fruiting Raspberries.

In private letters received during the past year I have been asked more than once for information concerning what are called fall bearing raspberries. These raspberries are somewhat popular in Europe, but nurserymen who have imported them, and others who have tried them, declare them to be but novelties, of no practical value. English catalogues give two kinds as being of value, the October Red and Belle de Fontenay. The latter sort has been grown here some years ago. Without positive knowledge, it is probable these are but late varieties of the common European red raspberry. The treatment given is different from what ordinary ones receive. In winter before growth starts the canes of these are cut completely to the ground. It is the new canes which succeed these that give the fruit, the clusters appearing on the ends of the canes. No doubt many a reader will have observed ordinary raspberries do this, as I have; and it is worth trying for information sake to see if such result would follow generally the cutting down of canes in spring. It has been observed that shrubs will flower in autumn instead of in summer when cut to the ground in spring, and such sorts as spiræs and wiegelas are sometimes treated in this way, to give a show of flowers late in the season, when well past usual flowering season.

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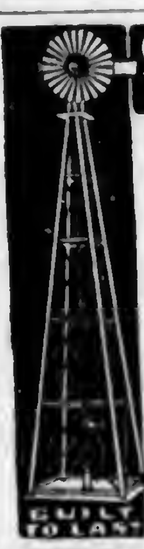
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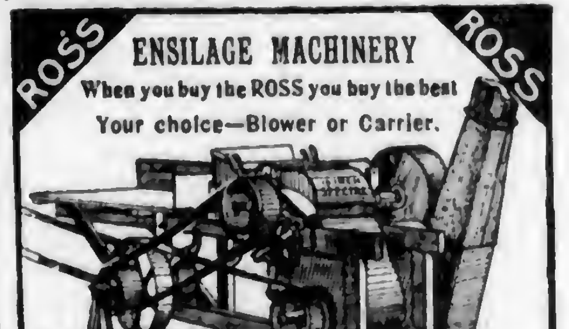
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Oleaster.

Under the name Oleaster a correspondent of the P. F. in an issue of some time ago, mentioned the shrub as being of much excellence for its fruit. She says: "The only fruit that I know of which requires no care whatever is the oleaster. It is really as 'hardy as an oak,' thrives in sod, is free from any disease or insect pest, and is loaded with fruit every year. Oleasters make a fine, bright red jelly and are very good for pies and dumplings." What is referred to is doubtless the Shepherdia Argentea, called also Buffalo berry, which bears fruit such as she describes. The fruit is tart, much as that of the barberry is, and has a somewhat hard seed enclosed in the scarlet pulp. Properly, other shrubs are included under the head of oleaster. There are several species of Elæagnus having a right to the name, but doubtless, as said, the Shepherdia is what is meant.

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Horticultural Queries.

Rose Mildew.—We have had more rain here this year than usual. Several of my rose bushes are affected with what they call mildew. I would like to know what is best to do for them. HENRY A. CADY.
Ballinger, Texas.

Get a little sulphur, and of a dry day, but when the leaves are damp, even if you have to sprinkle them, dust them with sulphur. If rain washes it off put a little more on. It is death to mildew. There are other remedies, but mostly poisonous ones, which you would not wish to use on rose bushes.

Cions and Rose Cuttings.—1. Can I cut cions for grafting this fall? What month and how preserved? Also what growth and length? Can I save rose cuttings in the same way? I can get cions of the kinds of apples I want this fall very handy, while if I wait until spring I expect to be 12 miles out from the trees I wish to cut from.
Meadville, Pa.

You can do as you desire, cut the cions in November and keep them in damp sand in a cold place all winter. They should be in good condition for grafting in spring. Lengths of 1 foot are the handiest for handling. These you can cut into proper lengths when grafting time comes. Rose cuttings can be preserved in the same way, but you should cut them the proper lengths at once, say 6 inches. It is pleasant to have you commend the P. F.

◆

Horticultural Notes.

Concord Grapes.—The large quantities of Concord grapes coming to market shows that this variety holds its own against newcomers to a remarkable extent.

Hot Weather Plants.—Two good hot weather plants are the portulaca and the petunia. They like lots of heat and not too much rain. Give them a sunny place and they blossom profusely.

Peaches for Preserving.—For preserving, the Heath Cling peach is popular, as it has been for many years. This variety is one of a few which come true from seed, or so nearly so as to readily pass for the type.

Pruning. — When fruit and other trees are growing freely in early summer is the time to prune them to promote bushiness. A nipping off of the ends of the growing shoots starts out the side buds, giving several branches in the place of one.

Poppies are glorious flowers for our hot climate. No matter how hot or dry it is, they send their roots away down to where coolness and moisture are met with and fairly revel in it. Sow the seeds very early in spring, or if indoor facilities are at hand sow in autumn.

◆

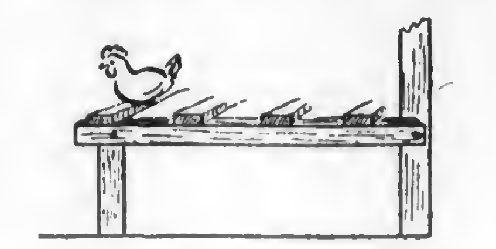
An Attractive Catalogue.—The 1903 Plano Husker and Shredder Catalogue is one of the most attractive machine catalogues yet issued. The handsome cover is printed and embossed in yellow, blue and gold with a full-sized ear of corn in natural colors. The descriptive matter is clear and to the point. The Plano Husker must certainly be one that will stand close investigation, for its entire mechanism is clearly and interestingly described and illustrated in this book so that anyone can see just how it works although the machine has several novel features. The hearty endorsement of practical fieldmen who are using Plano Huskers is in evidence on every page of the book and makes it unusually convincing. The modern Husker and Shredder is proving to be one of the most profitable machines ever placed within the farmer's reach, and we believe it will well repay all our readers to send for a copy of this catalogue for the practical information it contains. A copy will be sent free to any reader of the P. F. by addressing Plano Division, International Harvester Company of America, Chicago, or any Plano Branch House. Mention the P. F.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Common Sense Perches.

A. B. C., one of our readers, forwards a plan of arranging perches, of which the illustrations here annexed show a modification. His plan, however, is so faulty in one respect that it is not a "short cut" to success. We believe in having all the perches on a level. It avoids much trouble. If one perch is higher than another, every hen attempts to get to the highest perch, and at the top there will be fighting and trouble every evening. We believe in having the perches low, especially for heavy breeds. Two feet above the floor is fully high enough, and better than four. Heavy hens do not like to jump down from a high perch upon a hard floor. It may hurt them. We believe in movable perches. Stationary perches soon become a breeding place for mites (red spider), and this means more trouble, of a most serious kind, too. We like to use flat poles, fastened to their proper places by means of a peg or pin at each end so that they may be easily taken off and cleaned whenever required. Simply lift them off the pegs when you want to clean them, or to wash them with kerosene (which is the best way of getting rid of the red spiders), or when you wish to remove the droppings from underneath. For supports a piece of 2x3 scantling at each end will answer very well. With removable perches these supports will not be in the way; but if the perches are nailed fast, it may be a good plan to secure the far end of the support to a post or the wall of the building by means of a bolt or a hinge, so that it may be lifted up and hung by a hook as shown in Fig. 2. The cleaning of the floor can then proceed all right, and when done, the supports are let down again, and the perches put in readiness for the fowls' use.


Arrangement of Perches. Fig. 1.

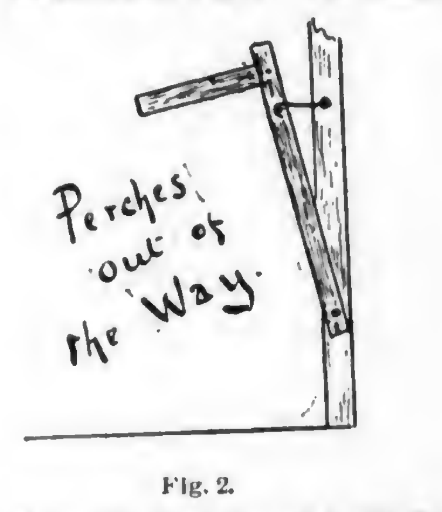


Fig. 2.

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Raising Poultry in Virginia.

In the P. F. of June 13th, in reply to a Connecticut subscriber who wished to visit Norfolk, Va., with a view of settling in that vicinity to engage in the poultry and trucking business, you advise him to keep away from there, and not give up Connecticut for Virginia, as New England is a far more desirable country for the business he has in view. In the first place, you say that the land near Norfolk is not suitable for poultry, being too level and difficult to drain; that although the shipping rates from Norfolk to New York is but 15 cents per crate of 30 dozen eggs, the shipper sacrifices a great deal owing to low prices at which the inferior Southern eggs are quoted in New York, and you say the reason of that is because the Southern producers allow their eggs to lie around and become stale and poor in quality before selling them to the country stores, and there they are kept a week or two longer on the counter before they are shipped to New York, and it is but natural that Southern eggs should sell for such low prices, compared to the quotations on Northern eggs. You then go on to say that immense quantities of "high class" eggs and poultry are constantly being shipped to the Eastern cities from Iowa, Illinois and Indiana, but you fail to explain how "high class" poultry and eggs can be successfully grown on the flat prairie lands of those States, which are quite as level and more difficult to drain than are the light and sandy soils of Southern Virginia. You wind up by advising your correspondent to "stick to New England" rather than go to Virginia, as "more money can be made there, and easier than can be done near Norfolk, in the poultry and trucking business combined." The advantages, you say, "are greatly in favor of Connecticut." As to level land being unsuitable for poultry raising, I am surprised that you should make the assertion. I have raised poultry here in Southern Maryland in large numbers for 25 years, and my land is almost as level as a barn floor, yet a sick chicken or fowl is rarely ever seen on the place—no diseases or gapes ever in the flocks, which are as robust and healthy as any you would find in Connecticut or anywhere else, and they lay throughout the year, eggs as large and of as fine quality as found in any market, and are perfectly fresh when they reach the consumers, to whom they are shipped direct, and at prices equal to New York quotation for your much-boasted Northern stock; so why should there be any occasion for Virginia or Maryland producers to ship their eggs or poultry to New York or Boston when Washington and Baltimore markets are right at our doors? Eggs are quoted in Baltimore today, wholesale, at 18¼ cents per dozen for Maryland and Virginia stock, and 17½ cents for more Southern shipments, and are in great demand. In New York today fresh Northern eggs are quoted at 18 to 19 cents, wholesale, while Southern eggs go at 12 and 13 cents per dozen only. Why, then, should Virginia producers send their stock there, to be swindled by unscrupulous commission men?

Springfield, Md. C. G. A.

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Queries Answered.

Ducklings Dying.—M. Barker, Algonac, Mich.—"I had seven spring ducks about six weeks old, and apparently as smart as could be. I let them out of their pen and they went to the marsh for a couple of days. They came up last night and I fed them the same as usual. In less than an hour four of them were dead. Some say that water does not agree with young ducks. I have been feeding them a mixture of bread, corn meal, and sour milk. A thick matter ran out of their mouths. They would walk a little ways and then sit down, and then they would get up again and go a little ways again and sit down." Ordinarily ducklings are more easily raised than chicks or most other kinds of young fowls, and yet they are liable to succumb to accidents and disease. It is not safe to let the very young ducklings have free access to a large body of water. They like to swim, and yet they will do just as well if they have no other water than what is in their drinking fountain, and if thus kept they are better protected against the often fatal results of dampness. Wet grass is even more dangerous to them than a body of water. A mixture of bread, corn meal and milk, or cheese, should be all right for ducklings. It would probably be best to make a cake of such a mixture, or of corn meal, oat meal, bran, etc., baking this in the oven like bread, and then soaking it in milk until quite soft. It is impossible for us to tell, from description, the real cause of the death of the four ducklings. Possibly they got hold of some poisonous matter. Sometimes ducklings are stung by bees, wasps, etc., and then may die from it. Indeed, it is a most difficult matter to "doctor" sick fowls of any kind. They either get well naturally, or they die, and we can't always tell why. The most we can do is to provide proper shelter and proper food and drink, and then let nature take her course.

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Pointed Paragraphs.

Avoid Stagnant Pools of water in the yards. Much sickness results from them.

Few Breeds Give as high colored eggs, eggs almost brown, as the Langshans.

Corn is Never a safe ration alone; and should be given even more sparingly during the hot season.

A Lot of Old Potatoes, the culls of the crop, were still on hand in June. We are putting them to best use by steaming, a big kettleful at a time, then mixing with mixed meals with the addition of meat meal, and feeding to our hungry hens. We get rid of the potatoes, and get good pay for them, too.

Potato Growers If you want your team to sift those potatoes out of the soil use *Hallock's Potato Fork*. Run by two horses. *No cogs to wear or break*—but it runs all the same. Just send us your name and address, and we will tell you all about it. D. Y. HALLOCK & SONS, Box 803, York, Pa.

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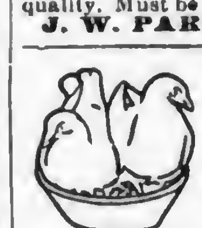
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The Practical Farmer.

FOUNDED IN 1855

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PROF. W. F. MASSEY, Editor.

Philadelphia, July 4, 1903

The Movements of Farm Products.

The Treasury Department statistics show that in the five leading live stock markets for the first four months of 1903 the receipts of stock were less than for the same months last year by over 180,000 head, and these months in 1902 showed a falling off from the same months in 1901. The chief falling off was in hogs, the receipts thus far this year being nearly a million short of the receipts in 1901, while in sheep and cattle there have been gains over the previous years. Wheat receipts were far larger than last year and immensely larger than in 1901. The sight receipts of cotton for the first eight months of the cotton year were 10,013,123 bales, of which the Southern mills took 1,543,500 bales. Texas alone furnished 2,730.052 bales. There has been a great increase in the grain trade of the Gulf ports over previous years. For the first 26 weeks of 1903 Southern California shipped nearly 14,000 carloads of oranges, which was more than for the same time last year, but considerably less than in 1901.

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Clover.

From all over the land comes the same complaint "we cannot get a stand of red clover." In lands where clover formerly throve and contributed to the improvement of the soil and the feeding of stock there is now a real difficulty in getting any clover at all. We were recently through the beautiful limestone valleys of East Tennessee and North Alabama where clover formerly flourished, but where it is no longer seen, and we saw last year the same thing in Ohio and more lately in Pennsylvania. Here and there in the latter States there were good clover fields, but the general rule was poor clover. Are the farmers of the Middle States and the West to fail utterly with clover? The great interest that has of late years been manifested in other legumes has had its origin in the failure of clover. Say what we may about the value of the cow peas, the vetch and alfalfa, there are no legumes that for the Middle States and the Central West that will take the place fully that clover has filled. It then becomes of the utmost importance to all farmers in these sections to find out the reason for the failure of clover and to earnestly set themselves to remedy it. The climate is not responsible, but, as a rule, the farmer is. In some rare cases he may have rendered his soil so acid by the turning under of green clover that it will no longer thrive, since the acid conditions are unfavorable to the growth of the nitrogen-fixing bacteria. In such cases the use of lime will restore the capacity of the soil for clover. But in the majority of cases the failure is due rather to the exhaustion of plant food and humus that will enable the plants to get a start. It is generally the lack rather than the excess of humus that is the cause. When clover fails the studious farmer should at once go to work to find out the reason. Plats of the affected soil can be easily treated with lime, with plant food in different kinds and sown with clover, and in this way what is needed can be found out. The Stations could do no greater work for the farmer than to devote special efforts to this failure of clover, and to endeavor to find out the reason for so general a failure. Clover is too vitally important in the central belt to be given up. The South can do without it, but the Middle States cannot.

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The Pennsylvania State College.

Legislatures, even when they try to be liberal to the State institutions, are apt to overlook matters of importance. The Pennsylvania Legislature made a liberal appropriation for new buildings and equipment at the State College for the Agricultural Department, but seems to have failed to realize that increased equipment calls for increased force in teaching. We have been favored with a copy of a letter from Dr. Armsby of the State College in reply to a letter of congratulation from Mr. Martin, the Deputy Secretary of Agriculture of Pennsylvania. Dr. Armsby says: "While we have not secured all we desired, and while in particular the appropriation for agricultural instruction is entirely inadequate for the vast work waiting to be done in Pennsylvania, nevertheless the securing of the Agricultural Building is an achievement of prime importance and one of which the farmers of the State, whose work it is, may feel justly proud. * * * * In the meantime, it seems altogether possible that the public, seeing the large total appropriation and forgetting or not understanding that the increase is purely for equipment and not for the support of current work, may form exaggerated expectations and be disappointed that the work is not enlarged more rapidly. * * * Whether this happens or not, however, we propose going right on with our work, as we have in the past, up to the very limits of possibility under the conditions as they exist." It is to hoped that the next Legislature will realize the error made and that Pennsylvania's great agricultural interests will receive their due share of attention. The agricultural work of the College is in good hands, and the men in charge of it will do all that can be done with the means supplied. But these means have never been commensurate with the importance of agriculture in the Keystone State.

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Work Hours on the Farm.

We are glad to see that some of our exchanges are agitating the matter of hours in farm work. In many parts of the country there is a great scarcity of men for farm work. The prosperity of the business of the country in general has made a demand for labor of all sorts, and the shorter hours in most lines of business which employ laborers are more attractive to the laborers than the long hours considered necessary on the farm. This, with higher wages has attracted the men from the farms. Long custom has made it seem necessary on the farm to work from sunrise to sundown, and often longer. Now is there any reason why farm work, as a rule, should need these long hours? We tried the ten-hour system with success on the farm years ago, and we found that the men accomplished just as much, if not more, than those around us who worked during all the hours of sunlight. In fact, our work was usually ahead of theirs. A man who knows that he is to keep at it from sun to sun will naturally favor himself, while the man who is looking for a little while for himself in the evening, will be willing to put more exertion into his task. If the farm hand is encouraged to read the farm papers and is given time to do it he will become a more efficient hand. There is nothing, in our opinion, that will tend more to the improvement of farm labor than shorter hours for work. Men will always be willing to put in some extra time in a pinch when the hay is to be hurried in or other crops saved if they know that it is extra time and is to be paid for as extra time. In short, we need more business methods on the farm in many ways, and the shorter hours will help in this direction.

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Education is Power.

In a notable address in the Assembly Chamber at Halifax, N. S., Hon Jas. W. Robertson, Commissioner of Agriculture for the Dominion of Canada, said "Education always stands for some sort of power—power to see, power to know, to understand, to do, and therefore power to be." Let the young men on the farms consider well what this means. All over the land we meet men who have not been taught to see. The great book of nature is open to them all around, but they have never been taught to read it. They have never considered "how the lilies grow." Hence they are prone to fall into all sorts of superstitious notions, imagining that one species of plants change into another, that the moon controls production and the like. These men are always the ones who listen to the fakirs who have some wonderful plant or plant remedy to sell, and they believe the man who tells them that calomel put into a tree will cure its diseases, because they have never been taught the nature of calomel or the process of life that goes on in plants. Then they have not been taught to know, to trace effects back to the real cause, and hence they jump to conclusions the facts do not warrant. We were standing with a man of this sort by a pine tree in which borers had made many a hole. In one hole an ichneumon fly had his head projecting. "There," said he, "is the thing that is killing the pine trees," and we had some trouble to explain to him the utter impossibility of that fly's making the hole, and to show him that the ichneumon was really laying eggs in the body of the larva that made the hole, and was a friend and not an enemy. He had not been taught to know a friend from an enemy. Education enables a man to understand the relations which different elements bear to each other, the effects of chemical reactions, and the reasons for using one thing and avoiding another in our treatment of the soil. Education gives him this understanding and thus enables him to be a real farmer and not a mere drudge behind a plow, thinking as little about the results of what he is doing as the animals that pull the plow. Education may not enable a man to excel in mere brute force of muscle, but it will enable him to save that muscle and direct it more effectually. In short, it will enable him to be and not merely to exist. The opportunities now offered to young men on the farms for improvement in brain power are so many that any man with any natural capacity can get a training if he wishes it. With the summer schools and the short courses in winter at the colleges, any man of energy can get a better knowledge of his profession even if he is unable to take a full four year course of study. The Good Book tells us to get wisdom, but adds, with all thy wisdom, get understanding. Reading and study may give us wisdom, but to get understanding we must handle things. The training of the mind and hand must go together if the man is to accomplish anything in the busy work of the world, and hence, while books and correspondence courses are useful, there is nothing like being on the spot and taking a hand in the work. Education of the mind and training of the hand give a man power that he can get in no other way. Therefore if you want to be a power in the world, young man, get a practical education in your calling.

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The Cream of the Bulletins.

North Carolina College of Agriculture and Mechanic Arts Agricultural Experiment Station, Raleigh, N. C. Bulletin No. 182. The Apple, Including Propagation, Planting, Pruning and Culture. By W. F. Massey. Apples in North Carolina, Kinds Grown in Different Sections of the State. By T. K. Bruner. Preparing Apples for Market. By T. K. Bruner. How to Use the Surplus Apple Crop, and Cider Vinegar Making. Gerald McCarthy.

This is a popular bulletin on apple culture in general, which has been called for by the growing interest in apples in the State of North Carolina. It has been abundantly demonstrated that the mountain section of North Carolina is a region peculiarly favored by nature for the production of unusually fine apples, and with the extension of railroad facilities into the mountains, the nearness of the Southern markets make the culture of the apple there very promising. The bulletin at hand is handsomely illustrated by a frontispiece of a colored plate of the York Imperial apple, which will be recognized as a faithful representation of this apple by all familiar with it. In the work on the propagation of the apple, cuts are given to show the methods of root grafting, and a series of chapters are given showing at what age the trees should be planted, methods of planting and pruning and the after culture of the orchard. There is also a series of illustrations of various apples, showing both ends of the fruits and the side appearance so that the varieties may be recognized as well as possible in black and white merely. Some pretty pictures of growing trees are shown, taken from photographs by Mr. T. K. Bruner, the Secretary of the Board of Agriculture. There is also a list of 76 varieties of apples grown in North Carolina, with the average size of each variety when well grown. A full description of these varieties is also given, many of them being unknown in the North. Recommendations are made of varieties adapted to the different sections of the State. Mr. Bruner takes up the matter of preparing apples for market and very justly criticizes the way in which the mountain apples have been shipped in loosely packed crates, giving a cut of one of these crates in which the apples have settled until all are bouncing about whenever the crate is moved. He also gives cuts showing the proper method of packing apples in barrels. Prof. McCarthy's work on the evaporator as a means for saving the surplus fruit, is an exhaustive paper on this subject, and gives a cut of one of the best of the portable evaporators. We hardly agree with him, however, in saying that no one should buy a smaller size than the one that sells for $100. This amount will deter those who have a small amount of fruit to evaporate, and for most farmers a smaller size will be large enough. Directions are also given for the making of apple butter, marmalade, jelly and fruit juices. The article on apple cider by Prof. McCarthy is also of great value to those who want to make a really good vinegar. He says that the following four factors are necessary. Pure cider, the presence of the acetic acid ferment, bacillus aceti, free ingress of air and a temperature of the air or room not less than 70 degrees nor more than 85 degrees Fahrenheit. The acetic ferment does not grow readily at a lower temperature than 70 degrees, and hence it takes a long time to make vinegar in the ordinary farm cellar. Then other ferments that are not desirable will grow at a lower temperature and will give trouble. Then explicit directions are given for the making of vinegar. Sound, clean and well scalded barrels, filled not more than half full of the cider stock, which should have fermented a month. To this add one-fourth its bulk of old vinegar, which will restrain the wild ferments and favor the acetic ferment. Then add a little mother of vinegar, which can be made by mixing half old vinegar and half hard cider in an open pail and exposing it to the air in a temperature of 80 degrees. In three or four days the surface will be covered with a gelatinous coat of the mother of vinegar. Remove this with a wooden paddle and place a little on the surface of the cider in the barrels, but do not stir it in, as the ferment grows only on surface. When fermentation is complete draw off the vinegar and strain it through flannel and bung up tightly. If "vinegar eels" get in, heat the vinegar but do not boil, and then strain through flannel.

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CONTENTS

AGRICULTURAL. — Preparing Corn Stubble for Wheat.—How to Harvest Seed Clover.—Health Hints.—Not Sick, nor yet Well.—Live Properly and Make Fine Health Come. 1
The Evolution of the Silo.—Something About the Air. 2
QUERIES.—Cabbages in Louisiana. 2
Cutting Wheat for Hay.—West Va. Farming.—Small Grain in Texas.—Crimson Clover in Tennessee.—Pulverized Lime. — Alfalfa on Lands Subject to Overflow. 3
LIVE STOCK AND DAIRY. — Home-Grown Rations for the Dairy Cow. 4
VETERINARY.—Death of Pigs.—Boil.—Ringworm.—Thriftlessness. 4
Mange. — Malignant Growth.—Tumors. — Lameness. — Obstructed Teats.—Blind Staggers.—Deafness—Goitre. 5
GARDEN.—Talks on Timely Topics.—The Cucumber Beetle.—Early Strawberries.—Current Comments.—The Bean Weevil.—Subduing a Fence Row.—The Cut Worm Pest.—Notes from a Carolina Garden. 6
HORTICULTURAL. — Autumn Fruiting Raspberries. 6
Oleaster. —Horticultural Queries.—Rose Mildew.—Cions and Rose Cuttings.—Horticultural Notes. 7
POULTRY.—Common Sense Perches.—Raising Poultry in Virginia.—Queries Answered.—Ducklings Dying.—Pointed Paragraphs. 7
EDITORIAL.—The Movements of Farm Products. — Clover. — The Pennsylvania State College.—Work Hours on the Farm.—Education is Power. 8
CREAM OF THE BULLETINS. 8
COMMERCIAL. 9
HOME CIRCLE.—Prize Offer. — Angels Everywhere.—Editorial Chat.—How Sylvia Helped. 10
Among the Flowers.—The Hair.—Correspondence. — Youth's Parliament. 11
OUR EXPERIENCE POOL.—Topic No. 578.—On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage It? 12, 14
FARM IMPLEMENT ANNEX. — Renewing Old Wagons.—Keep Your Tools Bright.—The Acme Harrow.—Cultivator for Small Farm.—Hang Those Doors Anyway.—Easy Way to Clean a Stable. — A Water Separator.—Passing of Wood. 14
POSTAL CARD CORRESPONDENCE. 16

At the request of some of our friends who overlooked, or had not time to accept our proposition, which was published in our April 25th number, and was good from May 1 to May 10, we have decided to renew that proposition, from

JULY 1 to JULY 11

This is an exceptional opportunity for your friends to secure the P.F. for the remainder of the year at less than half the cost of the white unprinted paper, to say nothing of editorial, mechanical work and postage.

This offer positively will not be renewed, and no subscriptions will be accepted that are mailed after JULY 11.

COMMERCIAL

Philadelphia, June 27, 1903.

WHEAT.—

No. 2, red, spot and June	81½ @	82
No. 2, Penna. and Del.	82½ @	83

CORN.—

No. 2, spot and June	55 @	55½
No. 2, yellow	58	
No. 3	51 @	51½

OATS.—

No. 2, white	47 @	47½

LIVE POULTRY.—

Receipts were moderate and the market ruled steady, with a fair demand for desirable stock.

Fowls, hens, per lb.	14	
Roosters, per lb.	10	
Spring chickens—		
1½ to 2 lbs., per lb.	20 @	22
Smaller sizes, per lb.	16 @	18
Spring ducks	13 @	15
Old ducks	12 @	13

DRESSED POULTRY.—

Fresh killed fowls, choice	15	
do do do average	14 @	14½
do do broilers, nearby	25 @	28
do do do Western	23 @	25

BUTTER.—

Western creamery, extra	21½ @	22
Western creamery, firsts	20½ @	21
Ladle packed	15 @	17
Prints, nearby, extras	22 @	23
Prints, nearby, firsts	21	
Prints, Western	19 @	22

EGGS.—

Receipts, 3,215 tubs and 3,506 boxes. The stormy weather checked trade to some extent, but nevertheless a fair business was done in Western creamery and the market ruled firm. Exceptional sales of very fancy goods were reported above quotations, but 22c. was generally considered the extreme of the wholesale market. Imitation creameries and ladles were in small supply and steady. Supplies of strictly fine prints were well cleaned up at steady prices, but there was a surplus of unattractive goods, which were dull and ruled in buyers' favor.

QUOTATIONS AT MARK.

Nearby fresh, ret'bl crates	16½
Western, choice, free case	16½
So. Western do do	16½
So. choice, do do	16

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 1,548 boxes. Offerings were more liberal and the market was a shade weaker, but there was a fair movement in desirable goods at revised quotations.

N. Y., f. c. small—		
New, choice	11	
Fair to good	10¼ @	10¾
State, part skims, prime	7 @	9

GREEN FRUITS.—

Raspberries, black, pt.	2 @	3
Raspberries, red, pt.	4 @	5
Gooseberries, per qt.	6 @	8
Whortleberries, N. C., qt.	10 @	12
Blackberries, per qt.	5 @	7
Cherries, per lb.	6 @	8
Currants, N. Y., qt.	8 @	12
Peaches, Fla., carrier	75 @	2.00
Plums, Ga., 6-bas. carrier	1.00 @	1.65
Watermelons, Fla., car.	150.00 @	250.00
Canteloupes, per crate	1.90 @	2.75
Pineapples, Fla., crate	75 @	1.50

APPLES.—

Baldwins, per bbl.	1.25 @	2.50
Ben Davis, per bbl.	2.50 @	3.00
Northern Spy, per bbl.	2.00 @	3.00
Rox Russets, per bbl.	2.00 @	3.00
Del. & Md., new, ½-bbl. bas.	1.00	

POTATOES.—

White, So. Rose, pr., bbl.	3.25 @	3.50
do do do md., bbl.	2.25 @	2.75
do do Chili, No. 1, bbl	2.75 @	3.25
Red do do pr., bbl.	2.50 @	3.00
do do do md., per bbl	1.75 @	2.25
Sweets, Jersey, per basket	40 @	50

VEGETABLES.—

Offerings were light, and the market ruled firm, with a fair seasonable demand.

Beans, Nor., per ½-bbl. bas.	1.50 @	1.75
Beans, wax, ½-bbl. bas.	1.50 @	1.75
Beets, So., per 100 bun	2.00 @	3.00
Cabbage, So., bbl. crate	1.25 @	1.50
Cucumbers, So., bas.	1.50 @	2.25
Eggplants, Fla., box	1.50 @	2.25
Onions, N. O., bag	1.25 @	1.50
Squash, So., per 1-3-bbl. bas.	50 @	75
Tomatoes, Fla., crate	1.00 @	2.00
do Miss., carrier	85 @	90

BEANS AND PEAS.—

Beans, marrows, H. P., bu.	2.60 @	2.65
Pea beans, H. P., 1902, bu.	2.35 @	2.40
Red Kidney, 1902, bu.	2.00 @	3.00
Green peas, per bu.	1.60	
Scotch peas, per bu.	1.65	

COTTON.—

The market advanced 40 points under bullish speculation in home markets, but spot cotton was dull on a basis of 12.90c. per pound for middling uplands, cash terms.

Cotton, per cwt.	12.90

FEED.—

Feed was quiet but steady under small supplies.

Bran, bulk, winter, per ton	19.50 @	20.00
Bran, sacked, spring	19.50 @	20.00

HAY AND STRAW.—

Receipts, 420 tons of hay and 6 cars of straw. Hay was in ample supply and quiet at former rates. Rye straw was in fair request and steady, with moderate offerings.

Timothy, N. Pa., choice, l'g.	21.00 @	21.50
do Western	20.50 @	21.00
Timothy, mixed Western	15.00 @	18.00
Straw, straight rye	17.50 @	19.00
Oat	8.50 @	10.00
Wheat	9.50 @	11.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5½	
Good steers	5 @	5¼
Medium steers	4¾ @	4⅞
Common steers	4¼ @	4⅝

CALVES.—

Veal calves firm and active.

Extra calves	7½ @	7¾
Fair to good	6½ @	7
Poor and common	5 @	6
Grassers	3 @	4

HOGS.—

Hogs steady to a shade lower.

Fat hogs, Pa., Del. & Md.	6½ @	8¼
Fat hogs, Western	8½ @	8¾

SHEEP.—

Sheep easier; lambs lower.

Sheep, extra	5 @	5½
Sheep, good	4½ @	4¾
Sheep, medium	3¾ @	4¼
Sheep, common	2 @	3½
Lambs, spring	5 @	7¼

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New York, June 27, 1903.

WHEAT.—

Wheat was steady on unfavorable crop reports, but later eased off on realizing, closing at slight declines for the distant months. The local market was very nervous, fluctuating easily and often, the range being between 80¼c. for September to 81 1-16c. Cables were disappointing as the other side responded only slightly to the advances here yesterday. This induced some liquidation early, which was also helped by the more favorable weather map. There was less rain reported in the Southwest, although this was somewhat offset by the absence of any precipitation in the Northwest. Reports from the latter section of the country were conflicting, some stating that the condition of wheat was excellent while again others stated that the crop would suffer unless rain fell very soon. Traders generally held to the latter belief and when showers were predicted for the Dakotas and Minnesota, an easier feeling prevailed and prices eased off. This forecast did not come out until late, and previously the market had advanced on the bullish Illinois crop report and the rather unsatisfactory tenor of the weekly Government report. The market acted as though it has been overbought, and considerable muscle seemed necessary to give it any pretense of strength. Northwestern markets were again strong, as was also St. Louis, but this was largely due to local and not general conditions. The close was fairly steady, with July ⅛c. higher and the distant deliveries ¼c. lower for the day. Chicago carlot receipts were 48; Northwest carlot receipts were: Minneapolis, 21, against 110 last week and 221 last year; Duluth, 111, against 96 last week and 26 last year.

No. 2, red	84¾
No. 1, No. Duluth	92⅛

CORN.—

Corn was easier early on the clearer weather in the Southwest, although conditions there might still be greatly improved as the temperature continues too cold for the proper growth of the plant. There was but little pressure to sell early in the session and as a good demand came from commission houses the market soon responded and showed quite a little firmness. The advance did not last long, however, as the news became bearish and longs hastened to realize. The principal cause of the easiness was the large Chicago receipts, which amounted to 937 cars, while 850 only had been expected. Armour was reported to be a very heavy seller in the West, some placing his sales at over 1,000,000 bu., this being both July and September, although principally the latter. The export demand was about as usual, 20 loads being reported here and at outports. The close was quiet, July being ⅛c. lower, September ⅛c. higher and December ¼c. higher. Chicago carlot receipts were 937.

No. 2	58⅛
No. 2, f. o. b.	58½
No. 2, white, f. o. b.	54¾
No. 2, yellow, f. o. b.	59

OATS.—

Standard white	46½
No. 2, white	46¾
No. 2, white clipped	47
No. 2, mixed	43¼
No. 2, mixed clipped	43¾
No. 3, mixed	42¾
No. 3, white clipped	46¼
No. 3, white	46

HAY AND STRAW.—

Timothy, large bales, cwt.	1.25 @	1.30
No. 1	1.15 @	1.20
No. 2	1.10 @	1.12½
Clover, per cwt.	57½ @	90
Straw, long rye, per cwt.	90 @	1.00
Straw, oat, per cwt.	35 @	40

BUTTER.—

Creamery, extra, per lb.	21½	
do firsts	20½ @	21
do ordinary	18 @	20
State dairy, fresh, tubs—		
Fancy, per lb.	20½ @	21
Firsts, per lb.	19½ @	20
Ordinary, per lb.	17 @	19
West. Imitation Creamery—		
Finest, per lb.	19	
Ordinary, per lb.	17 @	18
Western Factory—		
Finest, per lb.	17	
Ordinary, per lb.	14½ @	15
Packing stock, solid packed	13 @	15½

CHEESE.—

State, f. c., small, choice	10¾	
Fair to prime	8¾ @	10⅝
Large colored, choice	10¾	
Large white, choice	10¾	
State, light skims—		
Choice	8¾	
Part skims, prime	7 @	7½
Full skims	2	

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—		
Fancy selected white	19 @	19½
Fresh gathered, extras	18½	
Fresh gath'd, 2nds to 1sts	15½ @	17
Western—		
Fresh gathered, extras	18 @	18½
Fresh gathered, firsts	16 @	17
Western, dirties, fresh gath.	13½ @	14

LIVE POULTRY.—

Spring chickens, nearby, lb.	18	
Western, per lb.	18	
Southern, per lb.	15	
Fowls, per lb.	13	
Roosters, per lb.	8½	
Turkeys, per lb.	11 @	12
Ducks, average, pair	70 @	1.00
Geese, average, per pair	90 @	1.25
Live pigeons, old, pair	30	
Live pigeons, young, pair	25	

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys—		
Average best, per lb.	13 @	15
Old	11 @	13
Broilers—		
Phila., 2 lbs. av. to pr., lb.	40 @	45
Phila., 3 to 4 lbs. pair, lb.	22 @	25
State & Penna., 3 to 4 lbs. to pair, per lb.	23 @	24
Balt., d. p., 2 lbs., per lb.	21 @	22
Western, d. p., per lb.	20 @	21
do scalded	17 @	20
Fowls, West., scald., sm., fcy	14	
Dry picked, small, fancy	11	
Southern & So. West., d.p.	13 @	14
Scalded, per lb.	13 @	13½
Spring ducks—		
Long Island, per lb	17½	
Eastern, per lb.	17½	
Jersey, Pa. & Va., per lb.	16½ @	17
Squabs—		
Prime, large, white, doz.	2.50 @	2.75
Mixed, per doz.	2.25	
Dark, per doz.	1.50	

FROZEN.

Turkeys—		
Young hens & toms, No. 1	17 @	19
Broilers, d. p., No. 1	19 @	21
Broilers, scalded, No. 1	16 @	18
Capons, choice, heavy	21 @	22
Medium size	19 @	20

GREEN FRUITS.—

Apples, So., new, box	50 @	1.00
Pears, LeConte	4.50 @	5.50
Pineapples—		
Indian River, 24s and 36s	1.75 @	2.25
Smooth Cayenne, per crate	2.00 @	2.50
Plums, Georgia, carrier	1.00 @	2.00
Muskmelons, Fla., crate, l'g	2.00 @	2.50
Muskmelons, choice, crate	75 @	1.50
Watermelons, per 100	15.00 @	25.00
Peaches, Fla., carrier	1.25 @	1.75
Georgia, carrier	1.00 @	1.75
Carmans, carrier	2.00 @	2.50
Strawberries—		
Atlantics, per qt.	18 @	22
Gandy Prize, per qt.	12 @	16
Oswego County, per qt.	12 @	20
Jersey, per qt.	10 @	12
Up river, per qt.	10 @	12
Blackberries, N. C., per qt.	6 @	8
Huckleberries, large blue, qt.	13 @	15
Small, per qt.	10 @	11
Gooseberries, per qt.	6	
Raspberries, Del. & Md., pt.	6 @	7½
Jersey, per pt.	6½ @	7
Blackcaps, per pt.	4 @	5
Currants, per qt.	6 @	9
Cherries, white, per bas.	35 @	50
Black, per bas.	70 @	80
Sour, per bas.	40 @	50
Small stock, per lb.	3 @	4
Grape fruit, Cal.	2.00 @	4.00

VEGETABLES.—

Asparagus—		
Colossal, per doz.	4.25 @	5.00
Extra, prime, per doz.	3.50 @	4.25
Prime, per doz.	2.50 @	3.50
Culls, per doz.	1.50 @	2.00
Lima beans, Fla., crate	3.00 @	5.00
String beans—		
Wax, per 1-3-bbl. basket	50 @	1.00
Green, per 1-3-bbl. bas.	1.00 @	1.50
Beets, per 100	2.00 @	3.50
Cabbage—		
Baltimore, per bbl.	1.50 @	2.00
Long Island, per bbl.	1.75 @	2.00
Norfolk, per bas.	3.00 @	3.50
Carrots, old, bbl.	2.50 @	3.00
Per 100 bun.	2.00 @	2.25
Cauliflower, L. I., bbl.	2.00 @	3.00
Corn, green, bas. or crate	2.50 @	3.00
Cucumbers, Fla, crate or bas	1.75 @	2.00
Char. or Sav., bas.	2.00 @	3.00
Norfolk, per bas.	3.00 @	3.50
Eggplants, box	2.00 @	2.50
Lettuce, nearby, per bbl.	1.00 @	1.50
Okra, carrier	3.00 @	4.00
Peas, L. I., per bag	1.25 @	1.50
Buffalo, per bas.	1.75 @	2.50
Peppers, green, Fla., crate	1.50 @	2.00
Radishes, per 100	50 @	1.00
Rhubarb, per 100 bunches	1.00 @	1.50
Squash—		
So., white, bbl. crate	1.00 @	1.25
Marrow, bbl. crate	1.75 @	2.00
Tomatoes, So., fancy, car.	1.50 @	2.25
Tomatoes, Crystal Spgs, tray	80 @	90
Turnips, white, 100 bun.	2.00 @	3.00
Onions—		
So., basket	1.00 @	1.25
Texas Bermudas, crate	1.80 @	1.90
New Orleans, bag	1.35 @	1.45
Small stock, bag	90 @	1.00

POTATOES.—

Southern, Rose, prime, bbl.	3.25 @	3.75
White Chilis, prime, bbl.	3.00 @	3.50
Red Chilis, prime, bbl.	3.00 @	3.25
Southern seconds, bbl.	2.00 @	2.50
Southern culls, bbl.	1.50 @	1.75
Old domestic—		
In bulk, per 180 lbs.	3.00 @	3.25
Per 168-lb. sack	3.00	
Sweets, East. shore, bbl.	1.00 @	1.50
Jersey, bas.	1.00 @	1.25

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	19@20

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	32@34
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest—something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

Angels Everywhere.

MARCIA IRENA BARNARD.

We might be led by fairy hands,
  In quest of noble things to do;
But careless of the angel world,
  We heedless walk in ways untrue.

For there are angels everywhere—
  Dear loving angels in disguise—
We cannot see their splendor bright
  Because of our dull mortal eyes.

Sometimes we know not how to turn
  Because of doubt and sorrow deep;
Then come they, gently stealing round,
  Our hearts, by sympathy to keep.

They lead us out from paths of gloom,
  And cause our griefs and fears to cease,
Where hope shines brightly like a star
  From out the golden gates of peace.

But when the evil powers us try,
  And patience lags or conscience sleeps,
Oh, then the gentle, holy ones
  Must turn away their heads to weep.

But when we ply our homely tasks,
  With patience kind or conscience clear,
Then with what joy and peace of mind
  We feel their holy presence near.

Dear Father, keep us good and kind,
  Teach us the truth, the right, the way,
So that the loving, holy ones,
  Shall never from us turn away.

Economy, Ind.

Editorial Chat.

Will "A Mother" West Virginia, please send her address on a postal card to Mrs. F. F. Williams, Southport, Brunswick Co., North Carolina?

* * * * * * * *

We would call attention to a letter from Mexico written by Mrs. J. M. Verity, of Tezonapa. You will all unite with us, we are sure, in urging her to come again—not only again, but often—and tell us more, more, more. We owe her an apology for the length of time that has elapsed since hers was received. The trouble is, it was put by itself so we would be sure and use it at once; it got in with some other letters and slipped out of sight and mind. We are almost glad though, for had we used it then we could not have had it now, but possibly we might have had another. Anyway, we cordially welcome her and wish she would come often.

* * * * * * * *

Now that the time of year is with us to ofttimes consult some authority on canning, pickling, preserving, etc., we would again call attention to the Practical Farmer Cook Book. It has come to be our favorite, and we are sure no housewife can afford to be without it. This is no "ad." either, but a bit of honest advice. Not alone do we commend it for the cooking recipes, but besides, it is a regular encyclopedia of everyday information. Fifty cents cannot be better invested. Order direct from The Farmer Co.

How Sylvia Helped.

VERA J. SWARTHOUT.

It was Sylvia's own little room. The arched ceiling and the tiny panes in the windows bespoke its good old age. On the floor was a dingy rag carpet, which had evidently seen better days, but whose thin spots were now concealed by bright hued rugs. An old-fashioned bed-room suite, which had once graced Grandma Arnold's "spare chamber," served Sylvia's purposes. But in spite of its otherwise gloomy aspect, the room was brightened here and there by the touch of a deft hand. Fresh muslin curtains were draped back gracefully at the windows, in one of which stood a geranium full of blossoms. The bed was covered with a snowy spread, while a few pen and ink sketches, done by Sylvia's own deft fingers, graced the walls.

In a low chair sat Sylvia herself, rocking violently back and forth and striving to keep back the tears which coursed down her pale cheeks. "O, we mustn't let anyone know," she sobbed. "No, no, not even Jack! Only last week papa was telling Mr. Zimmer that he hoped to pay it all by next year, but now how can he? How can we ever say that this dear old home is really our own?" and overcome by her grief she knelt by her bed and poured out the anguish of her soul to her Heavenly Father. When she arose she was calm and composed, for when was God ever known to refuse aid to those who asked it? Going to her stand, she bathed her tear-stained face in cool water, and brushing her thick dark hair back from her brow, twisted it into a soft knot on her neck. Then she changed her blue calico wrapper for a gown of white muslin, and, her simple toilet completed, descended the stairs. She found her mother in the sitting-room sewing. She tried to seem cheerful as usual, but to no purpose, for each knew the burden resting on the other's heart. While Sylvia made the tea and hulled the strawberries for supper, one plan after another was crowding itself into her mind. She was a noble hearted, generous girl. She and Ben were the joy of the home, but now she wanted to be more. She wanted to be of some practical aid to her father. She wanted to help him pay off the debt, which seemed an evil spirit casting a shadow over their hitherto happy lives, and which threatened to take away their home from them. But what could she do? She was delicate; she could not do as some of her acquaintances were doing, go into a store or factory and earn a living with her hands. She had tried poultry raising, vegetable raising, and such other ways of turning a penny as the farm afforded, but for such things she had no knack, and so she had seen her little schemes fall one after another. She had not felt badly about it then, for she had reasoned that after all it did not much matter, but now all this was changed. Money must be had, and what could she do to help get it? Her education had been completed two years before at the district school, and, seemingly, her only talent, that of drawing, although developed to some extent, had not been systematically cultivated. Sylvia was glad when she saw the "men folks" coming up from the hay field to supper, for she thought that Ben, with his sunny smile and bright jokes, might brighten up things a bit. But she was disappointed, for even Ben's happy spirit seemed clouded, and, although he praised her fluffy biscuits and with a sly wink, passed his dish for a second helping of strawberries, it was evident to his sister that he was suffering as keenly as she. She had promised to go to a church sociable in the neighborhood that evening with Jack Bennett, but although she had gladly accepted, she now wished that she had not, for she wished to remain home and think by herself. But she could not. She must not let Jack know. It had always seemed to her a disgrace that a debt rested on the dear old place that had sheltered her from infancy, and her father before her, and now when she had thought it about to be cancelled, how could she endure to see the mortgage not only unpaid, but more than twice the size it ever had been before, so large, in fact, that had it been paid, the Arnolds would have had very little left. She reflected that it would take her father until he was an old man to pay it, and she had so hoped that at least in the declining years of his life those dear old hands, hardened by the toil of many a summer, might at last rest. And Ben had made other plans, and how hard it would be to give them up! And she—O, what use was she! She began to hate herself, to wish she were a man; to wish she never had been born; to wish she were anything but what she was. To be sure, her father and mother loved her and she was Ben's ideal of a noble girl, but after all, unless she could be of practical aid in this great crisis of family affairs, what did it all amount to? While these thoughts were crowding themselves into her confused brain, she heard the sound of wheels down the road, and jumping up from her seat on the back porch, ran upstairs for her hat, resolved that she would be brave; that Jack should not know that anything was troubling her. She and Jack had been friends and neighbors together from babyhood, and as Ben was four years her junior, Jack had always seemed to her like a brother. They had gone to school in the dingy old schoolhouse together. In the summer Jack had always carried her lunch basket, and in winter, at recess, she had always been sure of the first ride on his sled. In turn, she had always taken his side in those little "scrapes" which even the best of school boys will get into. And how lonely it had seemed that last year when she had gone to school without him, because he was needed on the farm. So, after all, it was with a feeling of pleasure that she allowed Jack to assist her into the buggy and rode slowly along the dusty road behind the patient old farm horse, Dolly.

"I guess we're plenty early," suggested Jack, "so let's drive around by Rushford and get the mail." Sylvia consented, but ere they reached the postoffice she could restrain her grief no longer, and bursting into tears, she told him the whole story of how her father had signed the bad note; how they all felt about it, and most of all, how she longed to do something to help, but how powerless she was. "If I had the money," she said, "I might take a course in painting and become a teacher, but I cannot think of it now."

"Couldn't you do something at home to earn money?" ventured Jack.

"O, Jack, I've tried. I tried my luck on turkeys last year, you know, and they all had the gapes, and the year before my chickens nearly all died of the cholera, and last winter I tried to help Mrs. Smith with her millinery, but I was shut too much indoors and my nerves gave out, and, as you know, I have scarcely yet recovered my strength."

Jack felt that in such a case as this, his wisdom was but vanity, and after trying to say a few awkward words of comfort, turned the conversation into more pleasant channels. But he did not forget his desire to help Sylvia, and the next few days he thought earnestly. One evening, as Sylvia sat on the back porch in the dark, "blue as an indigo bag," she afterwards confessed, she saw a tall figure swinging up through the orchard and towards the house. It was Jack. She had not seen him since the evening of the sociable, and the very sight of him did her good. In an easy manner he seated himself beside her and announced: "Sis (he always called her that when he wanted to be especially friendly), I've got a scheme that I think might possibly help you out. Don't you want to hear about it?"

"Ye-es," said Sylvia with some hesitation.

"Well, it's just this, keep bees."

"Bees?" said Sylvia.

"Yes, bees. When Uncle Jack was out here this summer he was telling how a neighbor of his did it, and she succeeded, too, and I can't see why you wouldn't. You know we keep quite a good many ourselves, and I know something about it, and father knows more, and you could read up on the matter, you know, and I could come over to look after things once in a while, couldn't I?" he added slyly. "It wouldn't be hard work nor require much capital, and might help you some."

Sylvia was now thoroughly aroused, and together they discussed the pros and cons of the matter and then went to find Mr. and Mrs. Arnold, and ask their opinion. They quickly gave their consent, and so the next time Mr. Bennett's bees swarmed, the new swarm was taken to Sylvia. This was done several times, until when the bees ceased swarming Sylvia's row of hives gave promise of soon rivalling, in length, Mr. Bennett's own. Meanwhile she read what she could on the subject, watched the bees closely and helped Jack to protect them against the cold winds of winter that were soon to come. She could scarcely wait for the next summer, that she might begin her work in earnest, and when the bees began to swarm, Ben declared that she watched them so closely that even the drones were frightened into working. She was interested in her work, and this is the first essential of success. And Sylvia succeeded. The first year she made only enough to pay Mr. Bennett for the bees and hives, and such material as she needed, and a little over five dollars besides. She had though that if she only came out even this year she would consider herself on the road to success, so she was not discouraged. The next year exceeded her wildest dreams and the next year she met with still greater success. At every sale the money was handed to her father, and Sylvia's heart, as well as her pocketbook, was so much the lighter.

She was growing strong and well from her work out of doors, and her hitherto pallid cheeks now bore the rosy blush of health, while her elastic step and merry song told their own story. Ben and Father had also succeeded, and in two years more the debt stood where it had been when our story opened, and in another year was entirely canceled. That very year a quiet little wedding occurred in the parlor of the old house, and Sylvia went to live just across the orchard and the back meadow.

And now whenever she sees the chimney rising from the trees which surround the old home, and thinks of the dear ones whose declining years are being passed under that roof, she lifts up her heart to the Great Father and thanks Him for leaving the old home to them instead of allowing it to fall into the hands of strangers, and for the knowledge, above all, that she helped.

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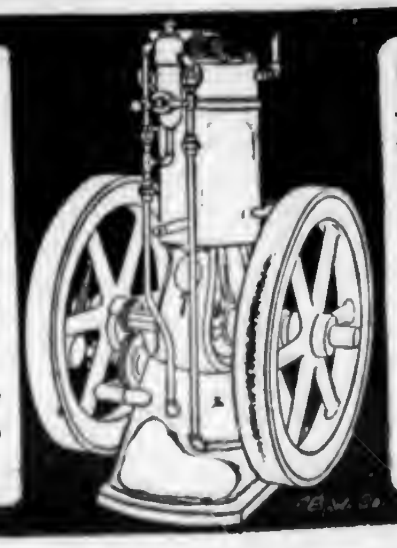

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Among the Flowers.

Wm. H. Wheeler, Greenleaf, Ore., writes: I think those pansies that Mrs. Luce, of Cherry Creek, N. Y., writes about were gnawed by slugs. I had pansies gnawed the same way in California, and I caught the slugs at it, though they do most of their work at night. I drove them away by sprinkling the soil liberally with lime. Salt or wood ashes might have the same effect. The caustics irritate the skin of slugs and angleworms, and cause them to seek other foraging grounds.

[Please give us more floral hints. We wish you could all see our double hedge of yellow and white roses. The effect is indescribable. Foliage is dark green and almost perfect, and buds and blooms beautiful, beautiful. Trailing up a south porch pillar is a half-double Magenta rose, full of flowers. Other varieties are just budded. In a few years Rose Lawn will merit its name, we trust. We never knew that white and yellow roses could be as lovely as are ours.—Ed.]

The Hair.

DUDE.

The hair, a woman's crowning beauty, is not always beautiful, and for the benefit of those who wish to take a little extra care of their hair and improve it as much as they can, I will give my "mite." When I had the measles I had to have my hair cut off. It seemed to die and was harsh, and when it came in it was very thin, and my head was covered with dandruff. It is not always measles that makes the hair in this condition, but often other diseases. First, let me say, I use a rubber comb and bristle brush. I wash my head and hair every two weeks (when convenient) and this is the way I do it: I let my hair down and comb it until the dandruff is loosened up and then wash it in warm, soft water with tar or other good soap; then beat up an egg or two and rub it well into the scalp. I then rinse my hair until the water is perfectly clear, and dry and brush it thoroughly. I then oil it with hen fat well perfumed—tried out, of course. This I rub well into the scalp, not on the hair. This takes about an hour. My hair does not fall out any more, is almost free from dandruff and is getting thick; also it is very fine and soft and growing rapidly. You cannot brush the hair too much.

Geneva, Neb.

Correspondence.

Mrs. Julia Coon, Farina, Ill., writes: Dear Mrs. Melville: I liked your words at the close of Mrs. Peacock's letter. It seems to me, judging from some of the letters in our farm papers, that many women are not looking at the suffrage question in quite the right light. It is not a question of whether our skirts will be soiled and ourselves defiled by breathing the same air with some fellow creature, but whether our "ain fair countrie" will be the better for our voting. I confess I do not know; I am one of the doubters. The one immediate benefit that we would be sure of would be that our polls would be transformed from the disreputable places they are now said to be, into quiet, orderly rooms, that any lady might enter with as much propriety as she now can the postoffice. Women have the full franchise now in Colorado, Wyoming, Utah and Idaho, and it behooves every man and woman in the United States to note if conditions improve in these four States. If the franchise were given to the women throughout the United States, would the majority of them simply join the two great parties, entailing the counting of double the votes, with no change in the results? I think a Western man hit the nail on the head when he said that trying to improve conditions by changing from one old party to the other was like a man changing his socks from one foot to the other. If the women would vote the liquor traffic down, then they cannot be given the ballot too quickly for the country's good. But if they should divide up like the farmers do, and vote half one way and half the other, results would be just the same as they would be now if the farmers all staid home on election day. To say women should have the ballot because men far their inferior in intellect and morality have it, is a poor argument. The most terrible mistake our country has ever made was made when we freed and enfranchised the negro. But that is passed. In the race problem now before the country we are only beginning to reap the evil results of it. Not but what the slavery itself was a curse to the country, but the change was too sudden, and came at a time when the South, impoverished by the long war, was least able to adjust it. I believe that the negro has suffered more at the hands of the whites since the war than he did before, and I believe that the negro who comes to our Northern States, hoping, with reason, for fair treatment from the Northern people, gets worse treatment than he did in the South. I think so, because the negroes I met in the South were, for the most part, pleasant-faced. Those met on the streets of Chicago look as though they expected an insult, and are ready to resent it. Viciousness begets viciousness, and the negro, naturally the most affectionate and happy of the races, is being turned into a resentful and vicious one. We Northerners were ready to fight, and, if need be, die for the negroes' freedom, but when it comes to riding in the same car, or taking negro children into our schools, heroism and patriotism seem to fail most of us. Our President sets us a good example, by judging men, not by the whiteness of their skins, but by the whiteness of their souls. We have the negro here, and it certainly is not his fault that he is in our country. I don't think that women could settle the race question at the polls if we had the franchise, but if we will, we can help immeasurably toward solving it without franchise. We cannot all give $690,000 towards negro education, as Carnegie has, but if we each give that many good words we will accomplish more than would Carnegie, should he give his whole fortune but give nothing else.

[We want to ask for correspondence in regard to the workings and success of woman's suffrage in the four States mentioned. We want it right from some man or woman resident there.—Ed.]

Mrs. J. M. Verity, Tezonapa, Mexico, writes: Dear Mrs. Melville: After living in cities all my life, with an occasional visit to friends in the country, and wishing that I could live on a farm so that I could have chickens and a garden like all farmers' wives, the opportunity actually came last May, when my husband accepted the position of cashier on the Laguna Chica Plantation, one of the best tropical plantations in Mexico. How pleased we were to get away from the noise, heat and dirt of St. Louis. (How much we miss St. Louis at times, though!) We were pleased with the prospect of seeing another country, and, after five days on the cars, found ourselves in our new home, farmers at last, among strangers with whom, owing to the difference in our languages, we could not be neighborly. Surrounded, however, by the most beautiful scenery and flowers, and the most delicious fruit, such as bananas and pineapples, besides all kinds of native fruits. I would like to tell you all about the fruit and coffee raised here, but my letter this time was to say how much I enjoy reading the H. C. and Correspondent columns of the P. F. While I receive seven or eight of the best papers and magazines each month, the P. F. seems to be like receiving a letter from a friend. Often I feel as though some of the letters were really for me; they are so home-like and chatty. After several months visiting some of the most historical parts of this country, I have begun to settle down to farm life. I have the chickens I have wished for so long, but leave the gardening and any other hard work to the Peons. I have had splendid luck with chickens. Out of 135 eggs set in December and January, 125 hatched. With 110 chicks growing finely I hardly consider it necessary to invest in an incubator or brooder. Hens can be set here successfully any month of the year, and will wean their chicks when they are three to six weeks old. We have summer the year around. White lawn and lace striped dresses have been most fashionable this last winter. Ice cream and like refreshments, served under orange trees, and open air concerts are our chief diversions, while in the cities bull fights and Spanish operas are the main amusements. The natives here, their customs, dress and mode of living, are all very interesting. The country, with its grand scenery, quaint old cities and legends are worthy of all the time that one can spend in visiting and studying them. I am fact becoming accustomed to living in the tropics, learning the language easily, and am trying to adopt the ways of these people, as far as I can, from the cookery to the after dinner siesta. If at any time an article on the people, cities, fruits, flowers or any other product of this country would prove of interest to your readers, I would gladly furnish you one.

Youth's Parliament.

Annie May Martz, Ft. Defiance, Va., writes: Dear Mrs. Melville: Will you permit another stranger to join your Golden Rule Band of Mercy? I was fourteen years old the fifth of last March; I am five feet tall and weigh one hundred pounds. I have no sisters or brothers, so the Y. P. affords great company for me. Papa has taken the P. F. for ten years and likes it better than any other farm paper that is printed. For pets, I have a little pig, two old cats and two of the dearest little kittens. Their names are Bessie and Carl. I also have a very dear horse, which we use for driving. Her name is Maud. I wish some of the Y. P. members would come and see me and my pets.

Alice Hershberger, Garden City, Missouri, writes: Dear Mrs. Melville: I will write for the Y. P. I have not written before. In answer to Miss Elizabeth Jameson's question will say "Jesus wept," is the shortest verse in the Bible, and is found in St. John, eleventh chapter and thirty-fifth verse. There is a S. S. two and a half miles from here which I attend every Sunday. I am eleven years of age. I have a sister older and a sister and three brothers younger than myself. Our school has closed for this term, but I will tell what classes I was in: Fifth Reader, B history, A arithmetic, A geography, A grammar and A spelling. We have been having wet weather this spring. Papa takes the P. F. and we all like it. I like to read the H. C. I will close for this time.

Now is the Time to Reclaim Bog Swamps and Bush Pastures. — In another column you will find an entirely new machine. While it has been in use for many years by such men as J. H. Hale, H. Otto, B. Carleton and other progressive farmers, yet it has never been thought best by the inventor, Mr. Geo. M. Clark, the producer of large hay crops, to place it on the open market, until every feature of it had been fully tested and perfected. Mr. Clark's great aim in life has been to build up the farm land and keep the boys and girls at home. This combination plow and harrow is one of his inventions to accomplish that end. This tool is cheap, strong and durable. With it a boy and team, in a few hours, can subdue an acre of the hardest bog or bush land. Those lands are always the best on the farm. This machine will soon make many a farm a money maker. While the day of the millenium is not yet here, the day of more intense cultivation is. The days of the wooden plow are gone. The days of the drag plow are numbered. The days of the plow crust and premature droughts are also numbered. We are learning, if not already learned, that to make large crops we must make a more perfect conenction with subsoil water, and this new subsoil is a long stride in the right direction. Everybody admits that Clark's implements and inventions have shown greater crop products by more intense cultivation. Five tons of hay have been made easy where less than one ton was made before. Intense cultivation doubles the crop everywhere. It is especially shown in the recent experiments in orchard culture where nothing except intense cultivation has been used, resulting in an immense growth of both tree and fruit without fertilizer except that coming from cultivation. Write the Cutaway Harrow Co., Higganum, Conn., for circulars and mention the P. F.

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Burnside, Iowa, April 1, 1903.
My wife is delighted with the Washer we got in January. **Would not part with it for $1,000 if we could not get one like it.** The day she formerly dreaded she now enjoys! Does not become tired of the wash and has **no backache any more.** We therefore both appreciate very much your kindness in sending us the liberal proposition through which we became owners of one of your "1900" Washers. Yours thankfully,
REV. A. E. GUSTOFSON and Family.

Dennysville, Mo., March 25, 1903.
Find enclosed **for full payment for "1900" Washer**, for which send me receipt in full. We have tried it for all purposes and am well satisfied that it will do all that you claim it will. To-day we have done a large wash for a family of ten and had it all done and **on the line in just two (2) hours**; it used to take me until after dinner the old way. Shall recommend it among my friends whenever a chance occurs.
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REMEMBER.—You take absolutely no risk, incur no expense or obligation whatever. The washer is sent by us on 30 days' trial, freight prepaid both ways, and positively without any advance or deposit of any kind.

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Topic No. 581, July 18.—*Is it Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in one?*

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 578.—On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?

A. G. Fansler, Hendricks, W. Va.—We practice a three year rotation and always apply the manure on a clover sod in fall or winter, that is to go in corn. We draw it direct from the stables as fast as made, endeavoring to haul when there is the least danger of damage by team and wagon on the land. The earlier the manure is spread before plowing the better, but part of it is, of course, hauled just before plowing. We do not hesitate to spread on hillsides, as we find the plant food gets but a short distance from where it is spread, for corn planted a short distance below where the manure goes gets little benefit from it. We generally use a good mineral fertilizer on the wheat, depending on the nitrogen in the manure and clover to furnish nitrogen for the wheat. Our clover seems to be failing of late years and sorrel increasing, probably due to an acid condition in the soil, and we are preparing to use about 30 bushels per acre of freshly water-slacked lime on our new clover in the future. We cannot do without clover, as the heavier the clover sod the better the other crops. We practice thorough, frequent and shallow cultivation to retain moisture, and the large amount of humus-making vegetable matter plowed under helps largely in this. Our corn grows green in droughty conditions, while other fields show the effects of the dry weather. In this way we have never failed to get a good crop of corn. We have never had any success with commercial fertilizers on the corn crop, never making the cost of the goods. Hence we think the manure should go to the corn crop and the fertilizer to the wheat.

Thos. H. Strain, Wellsburg, W. Va.—I have found that the most profitable use I can make of barnyard manure, and particularly sheep manure, it being more easily spread thin and even, is to use it as a light top dressing for cigar leaf tobacco, on soil which would otherwise hardly produce good leaf. This, however, only requires a part of the manure, and it has long been my practice before using it on tobacco land, and still is for the residue, to spread it thickly on the ground in the fall and plow under for wheat, my object being to keep the land up in richness and produce good meadows, which I generally have.

A. T. Holman, Nekoda, Pa.—We aim to put our stable manure out on the corn and potato ground as fast as we make it, up to the first of April of each year. What accumulates in the yard and what we make from April until harvest, we top dress young grass with after wheat is off, putting on with spreader. This we have found the most profitable way to handle manure, the little plants receiving food at just the time they need it. We continue to top dress stubble until late as it is practicable to use the manure spreader. We then commence to use wagon and spread by hand, which is not practicable when you expect to make hay the following year. The hand spreading cannot be done even enough to prevent the strawy manure from being picked up with the hay rake, which causes dirty hay. We keep but two cows, and feed beef cattle in winter, allowing the manure to stay in stable until the weather and soil is fit to haul out and spread off of wagon or sled. We have found this to be the most practical and successful way to use the stable and yard manure, as I know the stable manure is worth 50 per cent. more than the yard manure. But we cannot avoid getting some yard manure, as we usually give the beef cattle access to the straw stack in the yard a portion of each day. By following this method we never fail to have a good stand of clover and plenty of hay, except when the extreme drought and hot sun kill the plants after harvest, which has happened in our district twice in the last half dozen years.

Montague Haman, Windsor, Conn.—To get the most from the manure that has been kept under shed and cement floor is to put it on corn ground and plow it under. Corn roots go as deep as the plowing, and at earing time, when the weather is usually dry, the corn has something to feed upon. Then follow the corn with wheat or rye, seeded to clover in a three year rotation. This will certainly increase the fertility of the land.

John D. Smith, Mackinaw, Ill.—In this corn region, it pays best to use the manure for the corn crop. On heavy soil it pays extra well to spread the manure evenly over the land for corn the previous fall, or in the spring before breaking. Do not pile it in the field, as many do, but spread it as hauled. Do not pile it in the barnyard either, to waste.

H. M. Messler, White House, N. J.—The average farmer, seeking immediate benefit, draws all the manure on the sod to go into corn, followed by oats, wheat, clover and timothy. The farmer who seeks to add fertility to his soil, and to make farming profitable, I advise to practice the above rotation, spreading a thin coat of manure on the wheat ground, either before sowing time, or any time in winter, so as to insure a stand of clover and timothy. What manure can be drawn out after dressing the wheat should go on the land for corn, but do not haul any to be plowed under later than the first of March. Wait until the plowing is finished, and then clean the yard all out and spread it on top. In fact, I would like to have more of it put on at this time, but work is then always crowding. In dry weather it acts as a mulch, and after heavy rains the soil does not crust so badly. When no oats crop is sown, and wheat follows corn, it has been my practice not to manure the wheat. Fertilizer is always used here on wheat whether it is manured or not.

R. T. DeBerry, Humboldt, Tenn.—We use the manure for truck crops, partly in the field under melons and vegetables, but more in the hotbeds as heating material. After using it for this purpose we take it out in early spring, and mix it with good soil and leaf mould, one part of manure to three parts of the other soil, and use this to grow our plants, and thus get much better plants than where no manure is used. As we use the little plant boxes advised by Mr. Greiner for tomato and egg plants and melons, they carry practically all the earth in the beds to the field and in such a shape that the plants can use it at once. We get a double use of the manure, as the use in hotbeds improves it.

E. E. Lawrence, Spafford, N. Y.—We get the best results from our farmyard manure by hauling it as fast as made, and spreading it on the meadows. Early in spring we run over it with a smoothing harrow and make all fine and well mingled with the grass roots. There is no waste, with immediate results.

W. C. Aiken, Angwin, Cal.—Much of the land in the West has been farmed without manure, which was dumped wherever convenient, and soil exhaustion is becoming noticeable, and many admit that fertilization is necessary, and many are carefully saving manure and applying it. Fruit is the chief crop here, especially grapes, which need no manuring, as they grow and produce immense crops on very sterile soil. But disease has invaded the vineyards, and some think soil impoverishment the cause. Some manure is used on orchards and small fruits, but the best returns are from its use on the corn crop. Owing to cool nights, this locality is not well suited to corn, but with a suitable soil, well enriched, good crops are made. Very careful preparation of the soil and level culture are important where rain is so uncertain during the corn growing. The ground is plowed six to eight inches deep in fall or spring, checked three and a half feet each way and five kernels planted, to be thinned to three. Every particle of moisture is saved by repeated shallow cultivation. Weeds are not troublesome, but those which appear are chopped out with a hoe.

H. C. Boone, Wolf Creek, Ky.—If the manure is hauled direct from the stables it is best scattered on a clover sod intended for corn or potatoes, and the earlier in the fall or winter, the better. Where a compost is made, and the manure is fine, there is no place that will give better returns than the thinner parts of a field intended for wheat, to be followed with clover. This will be best applied to the ground and harrowed in just before sowing the wheat. It insures an increase in the wheat and a stand of clover. Composted manure pays well on the meadows, applied in the fall or winter. Never manure in the hill if you are farming your own land. If you have no manure spreader it will pay to spend some time in fining each load. This subject of handling manure should be pasted on every farmer's barn door.

J. T. Price, Hunt, Ark.—We raise corn, oats, cotton and potatoes with a three year rotation, spreading the manure on the oat stubble for corn, plant cotton on the corn stubble, and sow the cotton stalk land in oats. The oats come off about June 20th, and we then sow cow peas for hay or plant in late potatoes to raise seed for the next spring. Some of our farmers have discarded cotton and make more from grain and stock than the cotton growers do with cotton. They make manure and use it and the land improves, while the cotton farm grows poorer.

C. W. Beam, Loyd, N. C.—Manure turned under shallow the last of May, and cow peas with 250 pounds of acid phosphate drilled in, gave me more lasting improvement than any other plan. But this comes at a very busy season, and unless one has a manure spreader—and no good farmer should be without one—the better way is to haul out in March on crimson clover, scattering evenly, and turn all under for corn. At last working of the corn sow half a bushel of cow peas per acre, and you cannot fail to be satisfied with the results.

W. C. Thode, Bunker Hill, Ill.—Farmyard manure pays best on wheat. It should be applied thinly after the land is plowed, and the improvement will be manifest in the following wheat crop.

B. P. Wagner, LaBelle, Mo.—Manure pays best on the corn crop. We haul it out as fast as made and dump it over the ground with a fork. We have not enough manure to need a spreader. We put the manure on thickly and turn under for corn. When the corn is about up we roll and harrow, going first with the rows so as not to pull the corn up.

H. Ray Mercer, Upton, W. Va.—Being a market gardener, I use manure freely on all crops, but get the best results from its use on lima beans, which thrive much better with manure than with fertilizer, and are much earlier. Last year I applied manure freely on land intended for bush lima beans. I knew it was all right for the pole limas, but had not tried the bush limas. The result was fine. From two rows each less than 25 feet long I gathered three gallons of shelled beans. Where manure was not used, the limas were not nearly so prolific. I never compost farmyard manure, believing that it does not pay for the extra labor, but always haul direct from the stables and shed to the land. Nor do I pile it in little heaps, but spread it as hauled.

J. Newton Glover, Vicksburg, Pa.—Manure made from seeding time until the ground freezes is hauled out for corn and potatoes. What is then made until spring is hauled on the corn stalk land and plowed under for oats to be plowed again in August for the wheat crop that follows the oats. The manure thus helps me get a crop of oats, and causes the clay to plow easier in the dry weather of August. The manure being fine by this time, gets on top and helps me to a good wheat crop and insures a stand of clover. The manure made during the summer is hauled out and spread thinly on the plowed oats stubble for the wheat and clover. In this way there is very little manure in the yard at any time, and by hauling three times a year I can cover one-third or one-half more ground than by hauling but once a year.

Glade Yeager, Sprankle Mills, Pa.—In our four year rotation of corn, oats, wheat and clover, manure pays best when applied to the clover sod in the fall to be plowed under in the spring for the corn crop, which uses the manure pretty well up and leaves the land in good shape for the oats crop. Any surplus manure can be profitably used in the fall as a top dressing for wheat. The manure is saved in the shed during the winter and left there during the summer until fall, when it is ready to be spread. [In the meantime it should be making you corn.—ED.] Two men with a manure spreader and three horses can draw about 30 loads a day and spread it as evenly as a sheet.

W. D. Latshaw, Carlisle, Ind.—We follow a three year rotation of corn, wheat and clover. After wheat is harvested I apply all the manure then on hand on the young clover on the poorest spots. The manure made in winter is hauled out as made, if the weather permits, and applied to the old clover sod to be turned for corn in the spring. If we fail to get it all out, we carry it over until after harvest for the young clover. Corn will use all the soluble part of the manure the first season and prevent waste, and the stirring of the soil in the cultivation of the corn brings other matters into use for the wheat crop that follows. The corn having used most of the available nitrogen, the wheat will be less apt to lodge than if the manure is applied directly to it. We get better results from our manure when applied directly or indirectly to the corn crop.

C. M. Hunt, Gamble's Store, N. C.—The garden must have its share of the manure, since in it we get our humus only from the manure. But manure pays so well on all crops that we have strained ourselves and the manure to make it reach all crops, and have failed to learn on what crop it pays best. If we are going to use it on but one crop it would be corn. We keep stalls for all stock and keep these well filled in winter with pine straw. Having stalls enough to hold all manure from fall until planting time in spring, we haul direct from stall to field, and strew in furrows. If supply is limited we put in hills of corn; manure made in summer we use as a top dressing for wheat at seeding time.

D. James, Langstaff, Ont., Can.—Farmyard manure pays best on my potato land, mangels and corn land, the balance being used on land being prepared for fall wheat. For three years my average of potatoes has been 125 bags, averaging $68.75 delivered in market. Mangels have averaged 475 bushels per acre, worth 7 cents per bushel, $33.75 in the barn. Corn for silage has averaged about 11 tons per acre; at $4 per ton equals $44. My fall wheat has averaged 25 bushels per acre and has brought 76 cents per bushel, or $17 per acre. Potato and root land is plowed in September and 12 loads of manure per acre applied. It is then ridged up and left all winter. Corn land is plowed in the fall, sometimes cultivated and at other times left flat. During the winter we haul the manure and spread it on the corn land at rate of 12 or 13 loads per acre, and re-plow in the spring, planting corn 42 inches apart and cultivate well. Seed to wheat in the fall, only cultivating the corn land. Another portion of fall wheat is sown on a clover sod plowed in July after the hay has been cut. Then manure the knolls not more than seven loads per acre. This takes all the manure. The largest part of the manure is hauled direct to the field or kept under a manure shed, and a part in the open yard.

J. B. Johnston, New Wilmington, Pa.—I think that manure pays best on the hay crop. I take a field now that is to be mown in 1904 and go in corn in 1905. As soon as this year's crop of wheat or hay is harvested, I haul manure direct from the stables and spread it on the field. I keep this up all the fall, winter and spring. By the middle of May it is not advisable to spread manure on growing grass. I am opposed to the old custom of letting manure lie in the yard a year to rot, while the rain washes the strength of it down to the next farm or down to the spring run to the ocean. Our manure is part of our capital, and it should not be left idle in a bank or pile, but put as soon as possible where it will bring something. My plan of using manure insures a good hay crop, and puts the land in the best possible condition for our great farm crop, corn.

Nathan Clair, Newhall, Mo.—Corn being our most profitable crop, the manure pays best on it. The winter and spring accumulation is hauled direct to the field and spread on thin spots. Manure that accumulates around the feed lot and straw stacks is usually put on the thinnest spots that are going to be put in wheat. It is spread on the plowed ground and harrowed in while preparing the land for wheat. This does not pay so well as on corn, as wheat is less profitable here than corn, but it helps the wheat and helps get a stand of clover.

Grant Davis, White House, N. J.—We use the manure mainly on the corn crop. The corn crop will give less returns from chemical fertilizers and more from barnyard manure than any of the farm crops. What is on hand in the fall, and made during the winter is hauled on the clover sod which is intended for corn the next spring. We try to get the corn ground pretty well covered, as it is not desirable to plow under manure shortly after application, and to use it in a coarse state after plowing interferes with the use of the weeder on the young corn. Where the manure was applied first in the fall we get our best crop. We do not pasture fields intended for corn either in fall or spring. Horse manure is hauled out about as fast as made, as it heats and loses in piles. The remainder of the manure is kept in sheds until August and is then spread as far as it will go on the wheat ground. The advice to farmers to be careful in saving and using manure cannot be too often repeated. We have clay earth floors in cow stables, with water-tight drops, cement floor in the horse stable, with plank for horse to stand on and a cement floor in the hog house. Since these improvements were installed the visible supply of manure has increased, and what is still more gratifying, a load gives decidedly better results than it formerly did.

Godfrey Winkler, Southwest City, Mo.—Forage and grain for stock being our prime object, and our soil being deficient in humus and hard to get in clover, I find it best to haul the manure for the corn crop and then follow with oats seeded to clover. Have now a piece of land seeded to oats and clover last March, harrowing clover seed in with a light harrow, and the clover is nearly as tall as the oats.

J. S. Wright, Weyers Cave, Va.—It pays best on the corn. If there is any manure now in the barnyard, haul it out on the field you expect to put in corn next year. It will help the sod this summer and fall and enrich the soil, and will make better corn than if you leave the manure until next spring. Manure that is put on the land now, or at any time in the fall, will bring better corn than manure put on in the spring just before planting. And as we farm here, it is good for two crops of wheat. We sow corn ground in wheat in the fall, and the next summer when the wheat is taken off, the ground is plowed again for wheat, and the manure is turned up for the wheat and grass. [If you would sow cow peas on the wheat stubble you would get better crops of wheat than to merely work the stubble.—ED.]

W. H. Wheeler, Greenleaf, Ore.—I get best results from the manure when spread on sod as soon as the hay is cut. The ground is plowed and sown to Dwarf Essex rape for winter and spring feed for cattle, hogs and poultry, and then is plowed and planted to potatoes the last of May or first of June. In many places I suppose corn would be the proper crop instead of potatoes, but though corn can be grown here, it is not a profitable crop, as our nights are too cool for it. But potatoes are in their glory here, and run from 200 to over 300 bushels per acre. Rape flourishes on rank manure and furnishes a palatable winter feed, rich in protein, and leaves the ground in fine condition for potatoes. I aim to haul manure as often as possible, and while the hay crop is growing it is used on the garden crops. But on the whole, I think that put on the sod for rape and potatoes pays the best. There is usually a quantity of the green rape to turn under for the potatoes, and I believe it benefits them. [Green matter tends to make some acidity in the soil, and this is favorable to a clean crop of potatoes, as the acidity prevents the scab.—ED.]

L. W. Davis, Cazenovia, N. Y.—I think it pays as well on the corn crop as elsewhere. A meadow that is declining is manured fairly heavily up to the time for plowing. After plowing and harrowing the land is checked each way and cultivated both ways. The cultivator is run close and deep at first, and gradually more shallow as the season advances till we can scarcely go through, and the result is a full crop.

Albert Murphy, Gordonsville, Va. — Not having cement floors I use hard clay and plenty of absorbents. Haul direct from stable to a clover sod for corn, which I grow in rotation with wheat and clover. The excess of soluble nitrogen in the manure may cause wheat to lodge, while corn can use it without danger and leave part in the best condition for the wheat. When necessary to clean the stables at times when the manure cannot go to the desired place, I spread it under the shed adjoining the stable, where the trampling of stock prevents its heating. I would no more allow the manure exposed to the weather than I would my buggy or farm tools. If I see a portion of the manure smoking I attend to it as promptly as I would any other

(Concluded on page 14.)

FITS

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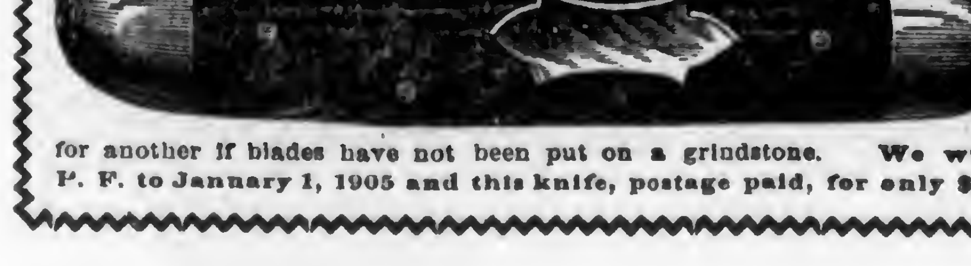

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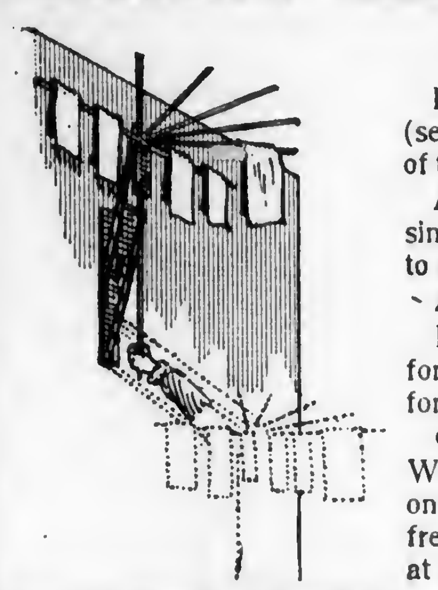

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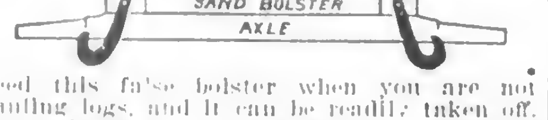
Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Renewing Old Wagons. — I will tell P. F. readers how to make a very convenient farm wagon. If you have an old wagon that has good hubs, have it cut down to 30 and 36 inches. Have your rims sawed 3 inches wide and 2 inches thick. I bought an old wagon and cut it down as I tell you about. Have cut down 3 since, and there are others that want me to cut down for them. This is a convenient wagon on which to haul cut off corn, logs, rocks, and where one has stumps to take off the land, this is the wagon to haul them on as well as for all heavy hauling. For hauling logs this wagon must be built up with 3x2 inch scantling until it comes level with the tops of the wheels. This is done by bolting the scantlings on top of the bolsters, using one bolt in each end. Get bolts long enough to reach from the sand bolster to top of wheel. You will not need this false bolster when you are not hauling logs, and it can be readily taken off. If you know where there is an old threshing machine with good wheels, you can make a nice farm wagon out of it. The way to get a pattern for your rims is to measure off 30 inches, then take a set of the compass and make a ring. Now get a piece of plank, lay it down and make the same mark on it. Set your compass to make 6 steps, each step making a piece of rim. Referring to the sketch, there is a piece of 6 inch scantling set against the bolster at either end and to these the hooks are bolted. When you bring your tie pole back taut you can raise the hook and let the pole slip in, and it will be thus held firmly.



Milford, N. C. S. I. DEAL.

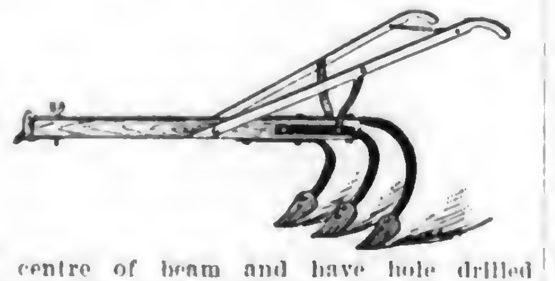
Keep Your Tools Bright.—I will tell P. F. readers how to keep their plows and their cultivator shovels bright and thus avoid the trouble of scouring when they want to use them. When you are through using the implement clean it off well before putting it in your tool shed, and apply a very heavy coat of white lead mixed with boiled linseed oil, not too thin. Is not hard to remove. Some use paint that is hard to get off.

Bishop, Ill. C. H. ZUERBRO.

The Acme Harrow.—There seems to be but little said about the Acme harrow by P. F. readers. Surely it deserves a good word. I have used a 2 horse, flexible riding harrow for years and could not think of dispensing with it. It cuts six and one-half feet. I consider the Acme one of the best implements on the farm, as I have never found anything that would equal it in pulverizing the ground. It is excellent for preparing the seed bed, doing the work thoroughly and leaving the ground smooth. Will work in any ground where there is not too much fox grass or weeds, this being the only fault that I can find with it. Will cut from 4 to 6 inches deep if properly regulated and weighted, and will run no harder than any disk harrow, and for shallow culture will run much lighter.

Coal Run, O. E. O. SHERBOURNE.

Cultivator for Small Farm.—The cut herewith represents a plan we have of making a cheap cultivator for use on a small farm where it is not convenient to keep a 2-horse cultivator and where the land is too rough to use the horse hoe. We take a wood beam double shovel and have our blacksmith make an extra foot piece. Cut a groove in centre of beam and have hole drilled through iron so bolt will pass through. Have outside beams set about 2 inches wider than they were before. Put on small shovels. It will do good work and leave ground level.

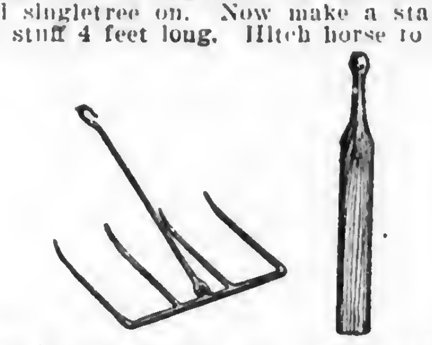


Nina, Tenn. D. T. BAILIFF.

Hang Those Doors Anyway.—It is a mistake to have barn doors swing in and the same to have them swing out. Both are troublesome and dangerous in high winds. Large doors for barn entrance or driveways should always be hung at top on rollers, and when the opening is wide there should be two doors instead of one as recommended in your columns recently. Evidently the writer who objected to narrow doors on account of their being more liable to be thrown off the track, is not acquainted with the merits of the improved stay-on hangers of the day, which should be had at any first-class hardware store. These hangers with the track are so made that the door cannot get off. They are flexible, so that if a bull were to rush out under door it would do no harm, and are a convenience and a joy, while the old style hangers are a dangerous annoyance. A door 15 feet wide suspended by two hangers is too wide and will bulge out of shape from the effects of sun and rain. I lately took down two 15x15 doors for a neighbor, ripped down through the centre, hung them with improved hangers and connected them in the middle where I ripped them in two with hook and staple, so they could be handled as one door if so desired. The old hangers and great width caused the door to get crooked, jump the track and fall to the ground, whereas they are now a pleasure instead of a vexation.

Smock, Pa. J. H. RITTENHOUSE.

Easy Way to Clean a Stable. — Have your blacksmith make you a hook 18 inches wide, with prongs 6 inches apart, 14 inches long and somewhat sloped ahead. Have an arm 18 inches long in centre with hook. Have the hook made of one-inch iron and then put a good singletree on. Now make a stamper of 3x4 stuff 4 feet long. Hitch horse to hook and set in centre of stall. Then take the stamper and stamp on back of hook until it strikes the ground. Give horse the work and he will pull the manure from one cow's place all at once, out in the yard wherever you want it. Put your fork under hook and lift it up and turn it on its back, drive into stable, turn and set hook for next load. In 15 minutes your stable will be clean, whereas before it took two to three hours' hard work.



Martins Creek, Pa. GEO. GOOD.

A Water Separator.—Some time since I was induced to buy a double tank water separator; an inside tank for milk, with water in outside tank. It is called the Ideal cream separator. I got it at wholesale price to introduce. While it is more convenient than the old crock or pan system, I could have bought the Cooley cans for half the money, and they will do just as good or better work. My advice is, don't buy one until you have got price of Cooley cans from your nearest dairy supply house. An ordinary cream can with barrel for tank will do as good work, though not as convenient; or a good tinner could make one.

Ottawa, Kan. IRA R. COE.

Passing of Wood.—Wood frames for agricultural machinery have about passed out of existence. Some 8 or 10 years ago steel came into quite general use for this purpose. However, some makers still cling to wood, for no other reason than that it is easier to work in the factory, though always unsatisfactory in the field. Especially is this true of wood wheels, for loose and dry earth in connection with sunshine cause the wheel built up of many parts to come loose and it can no longer be driven in a straight line, on account of wabbling. Likewise the wood frame of many joints is replaced with steel bent to place without many joints. True, steel will rust and become rough on exposure to the weather, and is necessarily heavier than the wood for some purposes, as for tongues and couplings, where length between supports is unavoidable. However, I notice that some makers are now even putting out steel tube tongues, also tubular eveners and yokes. While these are a little heavier than wood, they will stand exposure better.

Summit Grove, Ind. SANFORD HELT.

Our Experience Pool.

Concluded from Page 12.

valuable burning slowly. When the second cutting of clover is off I haul all manure as fast as it accumulates and spread thinly where the earth and the growing clover will save it for the next crop, with far less loss than in any other way I can keep it. I have long since quit putting manure in heaps, about the barn or in the field. I spread a heavy coat of straw in the stables and sheep sheds as often as they are cleaned out. It not only adds comfort and cleanliness to the stock but saves much plant food.

H. J. Horner, Horners, Va.—With me, all manure from hog pens, poultry houses, compost from night soil, as well as all ashes, are used as fertilizers for the garden, because they are free from grass and weed seeds. They are helped out with commercial fertilizers. Farmyard and other manures go on the land for the next years' corn crop, and is hauled out as made, not daily, but every week or two, or before the accumulation becomes too great. I use cement floors everywhere except in hog house, and will put one there as soon as I can. Never knew an animal to slip on one; bedding everywhere will prevent that. After corn is planted, so that no more manure can be applied, the accumulation is hauled out and used for touching up any thin spot wherever farm operations will permit. We usually pitch directly from stall into wagon, and scatter from wagon to land. It is folly to dump in piles. Too much lost time and labor. The application to the corn land begins after grass is cut for hay. Sometimes we cut the second crop of clover.

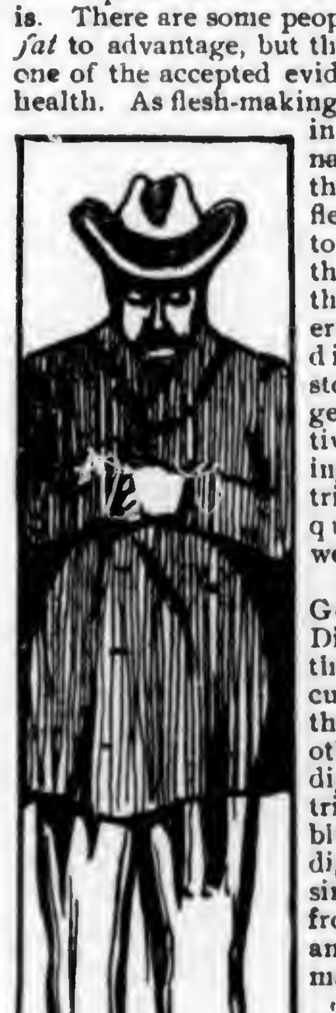
J. H. King, Smiths Creek, N. B., Can.—We apply our farmyard manure after haying on a clover sod. The land is to be plowed in a few weeks so as to get the sod rotted before winter. In spring it is grubbed deeply with a two-horse grubber. It is then rolled, cultivated and harrowed and made very fine. On such land we grow turnips, potatoes and other hoed crops. Our manure is wheeled from the stables daily to a manure shed. The cattle tramp it down firmly, which prevents too rapid fermentation. It is as valuable as when made and much less in bulk.

Irwin G. Miles, Berwindale, Pa.—Manure pays on corn or potatoes for the one crop, but to get a catch of grass we get good results on oats. It would pay on wheat but for the rye in the manure. For wheat it pays best on a sod to be plowed under. If you want to seed down the manure will help the grass catch more on top. I believe that it pays best on grass lands.

M. Winans, Meadville, Pa.—Our manure is hauled from the stables at all times of the year, and scattered as hauled, on sod. This makes a heavier crop of grass to plow down and increases the humus in the soil and insures a crop of corn. I follow the corn with oats and the turned up manure insures a crop and helps the grass, as I seed with oats. Having no manure shed I put the manure where there will be the least loss. My subsoil is clay and holds manure well.

SUMMARY.

We are glad to have so full a discussion of this important topic. Some contributions are unavoidably left out, but as they repeat what has already been said, they would add nothing of importance. We are glad to note the general tendency to get manure out on the fields as fast as possible. Manure is not a thing to store and improve with age. No matter how carefully it may be kept, there will always be a great deal of loss in the yards, manure shed or anywhere else, that is greater than any loss when spread on the fields. Where one is growing clover and grass in a rotation there will be little time in which the manure cannot find a place in the fields. As soon as the hay is cut from the sod that is to go in corn the following spring the manure can be going out on the sod, summer, fall and winter until time to turn under for the corn. It will be found, too, that the best corn will be grown where the manure was put earliest and has lain longest on top of the ground. The corn can use the raw manure and the rotting sod better than any other crop, and will make the finest of summer fallows for the wheat that is to follow. When one gets to growing forage enough to feed and make manure enough for his corn field he has that land in a course of improvement that will make him independent of the fertilizer factory, and to this point we should all try to attain. In sections where spring oats follow the corn it will be found an advantage to sow cow peas among the corn at last working and let them die on the land. Then this dead matter plowed under and the remains of the manure turned up will give a heavy crop of oats, and peas so sown after the oats will make growth enough to help the wheat crop greatly, even considerably north of where they may mature. With manure and legume crops one need not worry so much about fertilizer formulas, and the farm from its own products may be made to improve its fertility. In the cotton country the manure spread on the corn field with peas sown among the corn and left on the land will make the cotton crop following, with little aid from fertilizers, and crimson clover sown among the cotton will be the place to haul the manure out on in the winter for the corn to go on the sod after the hay is cut or for peas to be made into hay, and followed by wheat or winter oats and peas and then to corn. In any rotation and in any section, the manure should go where it will tend most to the production of stock food, for upon the feeding of cattle and the making of manure depends the permanent improvement of the farm.



"I've Lost Ten Pounds"

A man says. "Look at this." And he over-laps his coat to show how loose it is. There are some people who can lose *fat* to advantage, but the loss of flesh is one of the accepted evidences of failing health. As flesh-making processes begin in the stomach, so naturally when there is loss of flesh we look first to the stomach for the cause. And the cause is generally found to be disease of the stomach and digestive and nutritive tracts, resulting in loss of nutrition and consequent physical weakness.

Doctor Pierce's Golden Medical Discovery restores the lost flesh by curing diseases of the stomach and other organs of digestion and nutrition and enabling the perfect digestion and assimilation of food from which flesh and strength are made.

"My wife was for five years troubled with indigestion of stomach and bowels, bloating and severe pain at times during the entire five years," writes Mr. J. Milton Unger, of McConnellsburg, Pa. "Her heart was affected, and she took a purgative every few days but only received temporary relief. She got very poor in flesh and I bought one bottle of Dr. Pierce's Golden Medical Discovery from our druggist and after taking it she said she felt like a new woman. Has no more trouble with stomach and bowels, and has no pain nor bloating. Has gained fifteen pounds in weight."

Dr. Pierce's Pleasant Pellets cure constipation and biliousness.

Carriages and Harness.
Our large FREE catalogue shows complete line. Send for it.
ELKHART CARRIAGE & HARNESS MFG. CO., Elkhart, Ind.

THRESHERS and Threshing Engines, Saw Mills, Machinery and full line of Ag. Implements. Free catalogue. A. B. Farquhar Co., L't'd., York, Pa.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. A good all round man for general farm work. Will give $35.00 per month and board to good worker. J. L. MORAN, Hazel Hurst, McKean Co., Pa.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Practical Man wanted to take charge of an Indiana dairy and push sales. Single man preferred. Must be an up-to-date hustler. Indiana, care of PRACTICAL FARMER, Philadelphia.

Farm For Sale. 114 acres, in Queen Anne Co., Md. 7 room house; 8-out buildings; 3 stores; school and church in sight. Grows wheat, corn, clover and all kinds of small fruit. 18 acres wood; near three railroads. Price, $4,000 easy terms. Write to owner, JAS. MACDONALD, Ridgely, Caroline Co., Md.

Rare Chance. Farm and summer boarding house, 30 acres; house, cottage, kitchen, underground stable, barn, chicken coop, all new; water connection to kitchen and bath room; capacity 25 boarders, all rooms engaged, $6 to $8 paid per week for board; 110 miles to New York City, round trip ticket one dollar. Must be sold on account of old age. Price, $4200; $2400 cash, balance mortgage. Address, GREELEY HOUSE AND COTTAGE, Greeley, Pa.

Farm For Sale. Mecklenburg Co., 8 miles from Charlotte; good market; 2 miles to R. R. station and church; ½ mile to high school; ¼ mile to macadamized road; 110 miles macadam in county; high location, healthful, water excellent; good orchard just coming into bearing; climate unsurpassed; 147 acres, 100 in good state cultivation, 47 in timber, six-room dwelling, large barn, all necessary outbuildings; three tenant houses and gin house, all new. Address, J. J. PRICE, R. F. D. 6, Charlotte, N. C.

GEM FULL CIRCLE STEEL BALER
Lightest, Strongest, Cheapest.
GEO. ERTEL CO., QUINCY, ILL.

PENINSULA FRUIT FARMS FOR SALE.
Situated in Maryland and Delaware. Apply to
W. J. Mowbray & Son, Federalsburg, Md.

FREE BOOK ON FARM POWER
Address Gemmer Eng. & Mfg. Co., Marion, Ind

FREE An illustrated book which tells what Potash is and how it should be used, sent free to all applicants.
German Kali Works, 93 Nassau St., N. Y.

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box 711, Philadelphia.

SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

WRITE FOR FREE CATALOG
On Rumely Rear-geared Traction Engines and new Rumley Separators. Full of Thresherman's Logic.
M. RUMELY CO., LA PORTE, IND.

ROUND SILOS. No corners, no angles, hence no moulding, rotting and waste. Cypress, White Pine and White Hemlock. 4 styles; 200 sizes. Best and cheapest Silos on earth. All kinds Silo machinery. Catalog free.
HARDER MFG. CO., Cobleskill, N. Y.

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

Young Men's Runabouts, $27.90.
Top Buggy, $27.50
Write for 100-page Catalogue. It's free.
Compare our prices.
ROYAL CARRIAGE CO.
Established 1888. 470 E. Court St. Cincinnati, O.

SEPARATORS AND POWERS
for 1, 2 and 3 horses; level or even tread.
Sweep Powers, 2 to 8 horse; Hand
Catalogue free
and Power Corn Shellers, Feed Cutters; Feed Mills; Saws; Steel and Wood Rollers; Engines, 3 to 25 H. P., mounted or stationary.
THE MESSINGER MFG. CO., Tatamy, Pa.

STEEL ROOFING
FREIGHT CHARGES PAID BY US
Strictly new, perfect, Semi-Hardened Steel Sheets, 2 feet wide, 6 feet long. The best Roofing, Siding or Ceiling you can use. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. We furnish nails free and paint roofing two sides. Comes either flat, corrugated or "V" crimped. Delivered free of all charges to all points in the U. S., east of the Mississippi River and North of the Ohio River
AT $2.25 PER SQUARE
Prices to other points on application. A square means 100 square feet. Write for free Catalogue No. 124
CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., Chicago

WHAT $10.00 WILL DO

Invested in the Co-Operative Mail-Order Business

Co-Operative Profit-Sharing Money-Saving

A MAGNIFICENT MERCANTILE ENTERPRISE

A Handsome LIFE-INCOME Assured to Investors

FIRST PUBLIC ANNOUNCEMENT:

Of Interest to Everybody and Worthy of Your Closest Attention to the End: Because It Contains a New Idea Which will appear to You as Unique, Striking and Certain of National Success.

THIS is as advertised—We desire to set forth to the readers of this paper the true merits of a splendid, safe investment—opportunity—and challenge the searching scrutiny of the most conservative banker, lawyer or business man. Let us preface the announcement by saying that this is not the mushroom scheme of a promoter but a well weighed, carefully balanced plan of organization matured by years of experience and careful study and based on practical successful operation. We have laid our entire plan and proposition before some of the leading bankers, lawyers and business men of Chicago and other cities, also before many of the leading manufacturers throughout the United States, all of whom have pronounced it correct in principle, practical and certain of success. All these people have been approached in a private way, and many of them have interested themselves with us. They are positively leaders in the business world and known by everybody. Here is the proposition plainly stated: We have organized the "Cash Buyers' Union, First National Co-Operative Society" taking as a basis for this organization the old well established and eminently successful institution, the Cash Buyers' Union, a concern which has been in successful operation for the past eighteen years, whose advertisements have appeared in every mail order, agricultural and class advertising medium in the U. S., and whose name is a household word in every farm and village home. It has already several hundred thousand active customers scattered throughout the land from Maine to California and from British Columbia to the Gulf. We have reorganized this institution with a capital of Five Million Dollars.

WE SELL AT LOWER PRICES than all others, and issue complete catalogues of
Athletic Goods
Agricultural Implements
Baby Carriages
Bicycles
Bicycle Sundries
Boots and Shoes
Cloaks, Suits and Furs
Clocks
Clothing, Ready-to-Wear
Clothing, Made-to-Order
Crockery and Glassware
Furnishing Goods
Furniture
Groceries
Guns and Sporting Goods
Harness and Saddlery
Hats and Caps
Hosiery
Housefurnishing Goods
Jewelry and Silverware
Lamps
Millinery
Mackintoshes and Rain Coats
Moving Picture Machines
Musical Instruments
Optical Goods
Organs
Pianos
Photographic Goods
Public Entertainment Outfits
Refrigerators
Sewing Machines
Shirts, Men's and Boy's
Stoves and Ranges
Talking Machines
Trunks and Satchels
Vehicles of Every Description
Underwear
Watches, Etc., Etc., Etc.
Catalogues now in Preparation
Artists' Materials
Bakers' Supplies
Barbers' Supplies
Blacksmith Tools
Books
Builders' Hardware
Butchers' Supplies
Carpets and Curtains
Cutlery
Dairy Supplies
Drugs
Dry Goods
Electrical Goods
Fishing Tackle
Furnaces
Hardware
Ladies Wearing Apparel
Miners and Prospectors Outfits
Notions
Paints
Plumbers' Supplies
Surgical Instruments
Stationery
Tailors' Trimmings
Tinware
Tombstones
Tools of Every Description
Toys
Wall Paper
Woodenware
In fact a complete line of General Merchandise
Write for any of these FREE catalogues.

This is Our Plan

We want every reader of this paper to become a stockholder of the Cash Buyers' Union, First National Co-Operative Society, of Chicago, Ill.—one of the largest mail-order houses and the greatest co-operative store in the world. We want Small stockholders, but thousands of them and everywhere. We will not sell more than 100 shares ($1000.00) to any one individual and reserve the right to return your subsription and money after the amount of stock allotted to your county has been placed, or for any other good reason. This means that you must act at once or your letter and remittance may be returned to you, thus depriving you of participation in a great national movement toward co-operative dealing, depriving you also of this most exceptional opportunity for a strictly high-grade and immensely profitable investment—far better than a government bond and as safe; better than your savings bank deposit; better than real estate, mortgages, stocks, bonds or any other flattering investment you may mention.

We Have Refused to Accept $250,000.00

offered by one single Chicago capitalist, who, like ourselves, is so strong a believer in the co-operative mail-order business; so forcibly attracted by its wonderful earning power as demonstrated by famous national successes that he would be thankful to be permitted to invest his money in our shares. We have refused him because he could only give us his money.

We don't want money, we want stockholders—Co-Operative Stockholders—men, women, even children, all over this great country, one, at least, in every town or hamlet, who will, impelled by their sense of interested ownership and personal profit, make it their business to become walking, talking advertisements for this great establishment; who, no matter if they hold but one ten-dollar share, will feel proud ownership in their institution and do as owners do—Talk the Business, Push the Business, Boom the Business.

In other words—we want our stockholders to be active in and for the business—be Owners, Customers and Salesmen—all in one.

As Owners: You will receive 7 per cent. on your investment (that is guaranteed) and in addition a proportionate share of the profits, which are from 15 per cent. on the investmens from the very start and may reach 50, 75 or 100 per cent. annually according to the amount of business secured.

As Customers: You have special privileges in purchasing and can buy (if you desire to patronize your own store, which is optional) at a special stockholder's discount from the regular catalogue price, which alone will save you more than your entire investment in a short time.

As Co-Operators: If you influence orders for us you will receive the vast amount of money which would otherwise have to be spent in selling expense—newspaper advertising and catalogues.

This is Co-Operation at Last

in the truest sense of the word—the people owning their own store—with a purchasing power greater, more stupendous than that of all the great department stores of New York City and Chicago combined—a purchasing and distributing power which will drive price points lower than ever before, reduce the cost of living and enable the people in any part of the country to supply their needs—either direct, by mail, or perhaps through local branch stores—at nearly half the price they are ordinarily obliged to pay.

Detailed Plan of Capitalization:

We have decided to re-charter the "Cash Buyers' Union" under the name of Cash Buyers' Union, First National Co-operative Society, and to increase its capital stock to Five Million Dollars consisting of 500,000 shares of $10 each and divided as follows: Preferred Stock, $2,500,000, Common Stock $2,500,000 and offer for sale at par, for cash preferred stock only. The preferred stock is fully paid, non-assessable, seven (7) per cent. Guaranteed Cumulative and Fully Participating.

THIS MEANS:

First—THE PREFERRED STOCK is called preferred because it constitutes an absolute first claim, in effect A FIRST MORTGAGE on the entire assets, property, property-rights, trade-marks, trade-rights, etc., and the net profits of the business. The common stock cannot draw one cent of dividend until the PREFERRED STOCK has first been paid its guaranteed 7 per cent. dividend each and every year.

Second—It is FULLY PAID and NON-ASSESSABLE. Your first payment of $10.00 pays in full for one share, and you cannot be assessed for further payment under any consideration.

Third—An annual dividend of SEVEN PER CENT. must FIRST be paid each and every year on all the preferred stock before the common stock receives one cent, and this dividend is also FIRST CLAIM on all the property of the society.

Fourth—FULLY PARTICIPATING means that in addition to the seven per cent. guaranteed dividend, the preferred stock fully participates—share and share alike—in all the profits of the society. For example: If the net profits of the society amounts to 25 per cent. on the investment the preferred stock will receive, in addition to the guaranteed 7 per cent. dividend another 18 per cent. dividend.

Fifth—Every dollar received from the sale of Preferred Stock goes right into the business for active use and is represented by actual assets—dollar for dollar.

LIMITATION OF SUBSCRIPTION:

We should prefer to place this stock to 250,000 individual shareholders, each owning but $10, because the widest possible distribution of the shares is the chief object of this organization; therefore, not to exceed 100 shares ($1000) will be sold to any one individual.

Again, in order to distribute our representation equally throughout the country, we reserve the right to decline your subscription if the amount of shares allotted to your county on the basis of population has been reached. We will not accept total subscriptions to exceed $150,000 a month and reserve until further notice, the right to return all money received in excess or apply it on the next month's allotment, if you prefer.

NET PROFITS:

15 per cent. on the investment right from the start is the most conservative estimate it is possible to make for a successful business established 18 years, which is not a new, unproven enterprise, but a business which already has several hundred thousand satisfied customers with whom it is now doing business every day and which sells everything from a needle to a threshing machine, reaching every part and point of the civilized world.

During its eighteen years of successful existence the Cash Buyers' Union—the very business you buy into—has earned as high as 40 per cent. on the capital invested on a comparatively small business, consisting of but few departments. With the much larger business assured through the interested and profit-sharing co-operation of thousands of customers, and the public at large, an even higher rate of profit is safely assured.

HISTORY:

A return of more than thirty times the investment in six years. The tremendous earning power of the mail-order business is history.

One of the pioneers in the business, as long as twenty-five years ago, started with a small office and having little or no money, offered a half interest in his plant for $2,000, which money he desired for the expansion of the business. He was refused. To-day this same $2,000 half-interest is worth $3,000,000 and not for sale at any price. And all this vast capital has been piled up by profits of the business.

For another example: Eight years ago a Chicago capitalist entered a newly started mail-order business. He contributed to the capital of the firm less than $40,000. During the six years of his active connection with the business he withdrew many times his original investment in dividends, and finally sold his interest for considerable over a million dollars.

Six years in the mail-order business netted him more than thirty times his original investment.

All this was done under close individual partnership, with limited capital, and without the tremendous co-operation and selling force of an army of thousands of co-operative stockholders.

The business of two of the largest mail-order houses combined amounts to $35,000,000 annually and yields a profit of $1,400,000 on a total capitalization of less than $4,000,000, or 35 per cent. on the investment.

With such achievements by private individuals, a strongly co-operative organization with a $5,000,000, capital—greater than that of all others combined—With the most skilled force of managers and employes recruited from its own shareholders will without question, achieve still greater results both in point of sales and net profits produced.

IN CONCLUSION: It is evident from these facts and figures, which can be verified by any commercial agency, any bank in the city of Chicago, that our proposition will meet with immediate national acceptance as this advertisement appears in every paper of value from the Atlantic to the Pacific and from Winnipeg to the Gulf. It is evident, also, that this stock will be largely over-subscribed, go to a premium at once, and that the principle "first come first served" will have to be applied from the very start. While we shall be glad to send our elaborate "Book of Information" to all those who desire more complete details, we advise you in your own interest to subscibe today, NOW, before you lay aside this paper; and we and our bank agree to return your money if within 30 days after subscribing you change your mind or are dissatisfied with your investment for any reason.

Cash Buyers' Union, First National Co-Operative Society, Dept. A909, 158 to 168 W. Van Buren St., Chicago, Ill.

REFERENCES: First National Bank, Chicago, Depositary; Metropolitan Trust and Savings Bank, Chicago, Registrars; Messrs. Lord & Thomas, Advertising Agency; Dun's or Bradstreet's Mercantile Agencies; any railroad and express company. The publisher of any newspaper or magazine. Any bank or reputable business house in Chicago.

REQUEST FOR PROSPECTUS.

Cash Buyers' Union, First National Co-Operative Society, Dept. A909, 158 to 168 W. Van Buren St., Chicago.

Gentlemen:—Please send your complete "Book of Information" and all literature pertaining to the profit-sharing stock of your company to

Name................................Street................................

P. O................................State................................

It is understood that above will be sent to me free of all charges and that I am under no obligation whatsoever to subscribe.

For Quick Action Fill in this Remittance Blank and send in plain letter with P. O. Order, Express Order, Check or by Registered Mail, if currency.

Metropolitan Trust & Savings Bank
Cor. Madison & LaSalle Sts., Chicago, Ill.

Gentlemen;—I hereby subscribe for................shares of the full paid, non-assessable, 7 per cent. preferred and fully participating stock of the Cash Buyers' Union, First National Co-Operative Society at $10.00 per share. Enclosed find $................ in payment of same. This stock is to be registered by you in my name and the stock certificates sent to me, and when so registered and sent to me you are authorized to turn over my money to the company. If my subscription is received too late, the money is to be returned to me.

Name................................Street................................

P. O................................State................................

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located about 13 miles north of Lancaster, the county seat of Lancaster county. Have telephones and rural free delivery of mail. Winter wheat looks fine. Prices: Wheat, 80c; corn, 53c.; oats, 41c.; potatoes, 40c. per bu.; bran, $20; hay, $22 per ton; horses, $50 to $125; mules, $50 to $150; cows, $30 to $40 each; hogs, high; fowls, 10 to 11c.; butter, 20c. per lb.; eggs, 15c. per doz.

HENRY B. SNAVELY.

R 5, Lititz, Pa., June 24, 1903.

Six miles north of Fairmount, the county seat of Marion Co., W. Va. Principal crops are winter wheat, corn, oats and potatoes. Apples, peaches and plums a failure on account of late freeze. The wheat crop is good, and is now being harvested; oats are looking fine; corn growing nicely. Grand growing weather. Pastures doing fine. The outlook for all grain crops this season is good. A great deal of corn is being sown and drilled this month for feed, owing to the hay crop going to be short. Farmers are experimenting with cow peas and rye for pasture and fertilizer. Farm help scarce; wages, $1 to $1.50 per day. Hogs and beef cattle scarce and high; horses in good demand. Prices: Wheat, 80c.; corn, 65c.; oats, 48c.; new potatoes, $2 per bu.; spring chickens, 25c.; old hens, 12½c.; butter, 15c. per lb; eggs, 18c. per doz. P. F. is O. K.

E. R. I. FREELAND.

Barrackville, W. Va., June 23, 1903.

We are located 35 miles east of Cleveland, on the Western Reserve. Farmers well along with work. Crops looking fine except the hay crop, which will be a short one on account of the dry spell we had in May; but the rains of late have made everything look nice and green again. There will be an electric road built from Cleveland to Sharon, Pa., through this county this summer, which will be a big thing for the farmers. Prices: Horses, $75 to $150; cows, $40 to $90 each; milk, 80c. per cwt.; eggs, 16c. per doz.; butter, 16 to 20c.; fat hogs, 6¼c. per lb.; oats, 40c. per bu.; corn, 40c. per basket. Haying has just commenced. Wheat is ripening fast.

ELI K. BYLER.

Middlefield, O., June 22, 1903.

Located in Western Pennsylvania, 12 miles west of Pittsburg. Principal crops are wheat, oats, corn, timothy and clover; millet is sometimes raised when the grass crop has the appearance of being short. Considerable millet will be sown this year. Farmers have been somewhat discouraged on account of the dry weather, but the recent rains are making the meadows look better. Wheat has a poor appearance, but the rains are helping the appearance of oats, and the farmer who was "down in the mouth" a few weeks ago is beginning to "chirk up." He smiles contentedly since the rains have come. Hogs are scarce. Cows, $30 to $50 each. Corn all planted, and though quite small, gives good promise. Sweet corn is extensively raised here, but a great deal of the sweet corn seed failed to sprout this year.

H. E. McBRIDE.

Cliff Mine, Pa., June 23, 1903.

Eleven miles from Harrisonburg, the county seat of Rockingham Co., in the famous Shenandoah Valley. Harrisonburg is considered the best horse market in the State. Every court day buyers from the Northern markets come to purchase draft horses. About 200 horse change hands; prices ranging from $125 to $200. Wheat is the money crop of the county. The yield averages about 20 bushels per acre; price now, 75c. per bu. The wheat is now being cut. The county is well adapted to corn, which is fed to hogs and cattle, the prices of which yield good returns to owners. Peach and cherry crop an entire failure, but a full apple crop is assured. The county is covered by the best telephone system in the State; it is based on the mutual plan; a 'phone holder has access to over 3,000 'phones at a cost of less than $5 per year.

E. L. LAMBERT.

Montevideo, Va., June 22, 1903.

Situated 5 miles north of the city of Columbia, S. C., in Richland county, in what is known as sand hills. Natural drainage is perfect. Soil from 1 to 2 feet is sand to sandy loam; is naturally rather poor, but is susceptible of highest improvement; is a sure crop bearer even if it is wet or dry. All crops do well when not neglected. Land sells at from $20 to $50 per acre; rents from $2 to $4, and plenty of it unoccupied. Best free stone water at from 10 to 30 feet. All farm produce sells at fancy prices. Our county roads are improved, so that we may load our wagons but not the teams.

J. T. KIRBY.

Columbia, S. C., June 22, 1903.

Located in Jackson, Washington Co., 30 miles north of Troy. We are having a fine rain after a drought of nearly 60 days, being the longest drought since 1891. The outlook for hay is very poor. Farmers are sowing corn, sorghum, millet and rape. Corn and potatoes are being re-planted. Old hay is selling for $20; rye straw, $14 per ton; potatoes, $2 per bbl.; butter, 27c. per lb.; eggs, 18c. per doz. A large number of dairy cows are kept here. The butter factory makes 600 pounds of butter per day. Hired help is very scarce and high. Forest fires have been raging near here; many acres of valuable timber have been destroyed.

SPENCER HATCH.

R 3, Greenwich, N. Y., June 23, 1903.

Ft. Pierce, in Brevard Co., is on the east coast of Florida, on the Indian River. This is the pineapple section of Florida. An immense crop has been shipped this year. It is estimated at over 400,000 crates. They netted about $1.50 a crate. The season is almost over now. It was very early this year. Pineapples will be shipped all summer in small quantities. We have had plenty of rain, but not too much. Nice weather now. Living is high. Potatoes, 40c. per pk.; eggs, 25c. per doz.; butter, 35c. per lb. It is a healthful climate.

A. J. McDONALD.

Ft. Pierce, Fla., June 20, 1903.

Situated in Randolph Co., 14 miles south of Asheboro, the county seat, and one mile from Seagrove, a station on the A. & A. R. R. Land is rolling, suited to almost all crops. April was very cold and rainy; May was dry, and farm work has been backward. Had good rains a few days ago. Crops looking very well, but corn is small, owing to late planting. Wheat and oats very good. Cotton not good stand. Potatoes fair. Meadows and pastures are in good condition since rains. Farm help scarce. Horses high priced. Hay, $15 per ton; beef, 6c.; pork, 10c.; butter, 15c.; bacon, 13c. per lb.; eggs, 15c. per doz.; corn, 75c.; wheat, $1; peas, $1.25; potatoes, 75c. per bu.

G. F. GARNER.

Why Not, N. C., June 22, 1903.

Located near DesMoines, the capital city. Weather has been very unfavorable. Had a freeze April 29th that destroyed the bloom on plums, currants, gooseberries and cherries, and greatly injured other fruit. About the middle of May the rainy period commenced, lasting 21 days, during which time the most disastrous floods ever known destroyed all crops on the bottom lands. A week of extremely cool weather followed. Corn very backward and not all planted. Pastures fine and hay crop promising. Oats very rank and will lodge badly. Very little wheat. Prices: Corn, 45 to 48c., with upward tendency; oats, 35c. per bu.; butter, 20 to 25c. per lb.; eggs, 15c. per doz.; hogs, 6 to 7c.; cattle, 5 to 6c. per lb.; hired men, $22 to $28 per month. Much millet and corn for roughage will be sown.

J. W. WITHAM.

Clive, Iowa, June 20, 1903.

Located in Linn Co., 7 miles south of Albany, the county seat, in the heart of the famous Willamette Valley. Good climate; very little snow or freezing weather in winter, and no extreme heat in summer; cyclones and blizzards unknown; complete crop failures unknown. Principal products are wheat and oats; some barley, rye and buckwheat grown. Great hop and fruit country; famous for apples, pears, cherries, plums, prunes and all kinds of small fruits. Dairying becoming quite an industry, where formerly all was wheat or hops. Valley 20 to 30 miles wide by 150 miles long. Land fertile. Prices range from $10 to $50 per acre, according to improvements and location. C. & E. R. R. crosses Southern Pacific at Albany. Prices: Wheat, 67c.; oats, 30c.; potatoes, 30c. per bu.; eggs, 16c. per doz.; butter, 15 to 20c.; hams, 14c.; sides, 13c.; hogs, live, 7c.; hops, 15c. per lb.; hay, $10 to $15 per ton; stock beef, 3 to 4c.; wool, 17c.; mohair, 35c.; mutton, gross, 2 to 3c.; poultry, live, 8 to 10c. per lb.; flour, 95c. per sack. Crop prospects fair to good. Fruit doing well.

A. D. HALE.

Tangent, Ore., June 18, 1903.

Located 15 miles from Monticello, the county seat of Drew Co., Ark. Crops all look fairly well; a little backward; oats about ready to cut. We have had just rain enough for growing crops. Prices as follows: Corn, 80c.; oats, 55c. per bu.; cotton, 11c.; butter, 10c. per lb.; eggs, 10c. per doz.; Irish potatoes, 75c. per bu.; young cattle, $5 to $10; cows, $15 to $25; good horses and mules, $75 to $150; sheep, $1.50; goats, 50c. per head; dressed beef, 6 to 7c. per lb.; land, $3 to $7 per acre. Fine location for anyone wanting a good farm and home cheap. New railroad being built. Rainfall for January 6 inches; for February 9¾ inches; March, 6¾ inches; April, 2⅜ inches; May, 5 inches. Farmers not up-to-date on farming. P. F. not read much; cannot get them out of the old way; all ought to read P. F.

J. G. TAFT.

Scipio, Ark., June 20, 1903.

Located in Southeast Alabama, Bourbon Co. Climate mild and pleasant. Country is somewhat hilly, with plenty of clear, cool springs and good wells. Much of the farming land is badly washed and exhausted. Cotton and corn are the principal field crops. Much commercial fertilizers are used, and not enough live stock is kept. We have several R. F. D. routes in the county. Crops are not up to an average at this date. We have had too much cool weather. Farmers are behind with their work. Prices: Corn, 85c.; oats, 60c.; peas, $1 per bu.; bacon, 12c.; hams, 15c.; butter, 15 to 20c. per lb.; syrup, 50c. per gal.; chickens, 15 to 25c. each; farm help scarce; $9 to $12 per month and board.

J. A. RICHARDS.

Louisville, Ala., June 22, 1903.

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A Co-operative Mail Order House.—We take great pleasure in calling the attention of our readers to the full-page advertisement appearing on another page of this number, of the Cash Buyers' Union of Chicago, who have launched what we consider an epoch-making enterprise in the mercantile world. Fully convinced of the wonderful attractiveness of the co-operative principle, this well-known institution has been reorganized on the co-operative plan, with a capital of five million dollars, and the enterprise is watched with the deepest interest by all classes of people throughout the country. After years of careful study of the co-operative plan as successfully conducted in France and England and thoroughly impressed with the wonderful possibilities of doing a general mail-order business on this plan, the president of the institution, Mr. Julius Kahn, has outlined a magnificent plan, which is fully set forth in detail in the advertisement which we request all our readers to read, and to write for their prospectus which is the most interesting prospectus ever written on an investment proposition. We have no hesitancy in prophesying for Mr. Kahn's plan a success as unique as the plan itself, and as the enterprise is based upon an old established business of years of honest and fair dealing, with thousands of customers in every part of the civilized world, the presumption is but fair that with this reorganization the Cash Buyers' Union bids fair to become the leading mercantile institution of the country. Even though the advertisement itself may not interest you as an investor, a perusal of the book will enrich every reader with information which, to our certain knowledge, they are not able to gather from any other source.

THE OPEN DOOR TO OPPORTUNITY

If you read this advertisement through you have opened the door to opportunity, for here I offer to you what I consider to be the safest and most attractive investment ever placed before the public.

About forty miles from Everett, Wash., on the Great Northern Railway, is a prominent mountain known as American Peak. On this mountain is situated a copper mine called the

AMERICA-BRITANNIA

On one side lies the famous Bonanza Queen property, and near by is the well-known Ethel mine, another dividend payer. The AMERICA-BRITANNIA is the one I want to interest you in. First, let me tell you its salient points.

1. It is only capitalized for $1,500,000.
2. It is situated in a dividend-paying district.
3. It is only 40 miles from the big smelter at Everett.
4. It has over 96,000 tons of copper ore IN SIGHT.
5. The gold and silver in this ore will pay all cost of mining, transportation, smelting, etc., leaving the copper a net profit.
6. The revenue from the ore IN SIGHT will pay 300 per cent. on the total capitalization at par.
7. Inasmuch as this estimate is made only on the ore IN SIGHT, and as indications show huge bodies of similar high-grade ore uncovered, the mine should pay a 1,000 per cent. on its capitalization.
8. This company has never offered its stock at public or private subscription.
9. All the extensive improvements have been paid for by the original owners.
10. The property belongs to the company and is free from incumbrance.
11. Its stock is nonassessable and nonliable.

WHAT IS NEEDED

The ore is ready for shipment, and the Everett smelter is ready to receive it. What is needed to complete the improvements is a tramway to take the ore down the mountain side to the railroad. The completion of this tramway means the operation of one of the Greatest Copper Mines in the world. The first shipment of ore to the smelter will start the dividends.

I WANT YOU

To help us build this tramway. Thirty thousand dollars will do the work. The par value of the stock is $1.00 per share. For a short time I offer stock of the America-Britannia Mining Company at 15 CENTS PER SHARE, subject to advance at any time.

I GUARANTEE YOU THIS

1. After September 1, 1903, no stock will be sold by me less than 25 cents per share.
2. After October 1, 1903, no stock will be sold by me less than $1.00 per share.
3. Dividends next summer.

YOU CAN BUY

This stock in two ways.

1. At 15 cents per share, paying cash for same.
2. At 17 cents per share, in four equal monthly installments.

ANY TIME You are not satisfied with this stock, I will negotiate its sale for you without charge. This is your open door opportunity. Write me for my interesting illustrated booklet, "The Story of the America-Britannia," free. Make all checks, etc., payable to

VICTOR H. SMALLEY, Fiscal Agent

SIXTH AND JACKSON STREETS, - - - ST. PAUL, MINN.

REFERENCES: Any St. Paul Bank, Newspaper or Business Concern.

THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Bring up Run Down Clayey Land.

G. A. G., who lives about 25 miles from St. Louis, writes the P. F. a long letter from which the following is taken: "Our farm is partly upland and partly creek bottom land. The original timber on the upland was white and post oak, with some black oak and hickory. The creek bottom land is fertile and gives us a large crop of corn when no injury is done by overflowing. Clover does not seem to grow very well in our section. Cow peas do well, but we never have a good crop of wheat following them. Oats yield well after the peas, however. Our upland soil runs together badly and frost lifts out wheat, clover, etc. When it was first cleared the land used to yield 20 to 25 bushels of wheat per acre; now it will not average above 10. As a result many farmers are selling out at $20 to $30 per acre and going where land is more productive. The average farm here contains about 100 acres, and yet one rarely finds more than 10 head of cattle on one farm. There are no cement floors in the stables. No land is tile drained about here, and little interest is taken in farm papers. I read the P. F., and have 'Our Farming' and 'Crop Growing and Crop Feeding.' I am anxious to improve the condition of our land. Can our upland be made rich enough to grow good crops of corn? Drought injures the corn on this land so badly most every year that the yield will not average more than about 25 bushels per acre. The subsoil is a stiff, yellowish clay, through which it does not seem as though water could soak down. Will underdraining benefit this land? If so, will the increased crops bring us enough more to pay a fair interest on the cost of the draining? Can we prevent the lifting out of our crops by frost?" The conditions reported by our friend and the questions asked bring up matters of much importance to thousands of our readers. In many sections where the P. F. goes the land has lost its original fertility and will not produce more than about half what it used to. When it was first cleared the soil was well filled with decaying vegetable mould, the accumulation of ages. There was plenty of available plant food if one only stirred the surface a little and made a half-way decent seed bed. Crops did not suffer for lack of rain, because this vegetable material in the soil held water well and prevented largely the loss by evaporation from the surface. In wet seasons, and in freezing weather, when there were occasional thaws, crops were not injured much because the decaying tree roots in the subsoil gave partial drainage, in connection with the loose condition of the soil caused by the vegetable matter mixed all through it. Gradually this vegetable material has faded away. It has been sold off in crops. It has been hauled to the barn and part of the manure resulting from its being fed out has been lost entirely. Much farm land has had little or nothing returned to it. Farmers failed to practice a rotation of crops, growing a sod to turn under occasionally, and they did not carefully return to their soil, in one way or another, about as much fertility as they took off. Often they did not understand the importance of so doing; more often their circumstances were such that they could not. They were just starting, perhaps in debt badly, and must do any way they could to get ready money the quickest. Now we have the result. Clay soil runs together badly. There is much less plant food available and crops are too small to pay any more than slow-starvation wages. The soil is no longer in condition to store up water when it rains, holding it along until the next shower. If it rains hard it runs off over the solid surface, instead of soaking down as it did when it was loose with vegetable material. What does soak into the soil quickly evaporates in sunshine and wind. As a result crops suffer, unless frequent showers help them out. One has to trust largely to luck for his returns. The seasons average no drier than formerly, probably, but the condition of the soil has changed so rain is no longer held and distributed along through the season as it used to be. Some farmers who have gradually run land down in this way are selling out to move to more fertile acres. Let us hope that they may farm them better. I am by no means certain that this may not be a wise change, from a simply business standpoint, if they can find buyers at prices named and fertile land does not cost too much. But all cannot do this way, and it would be more noble for those who have either carelessly, or from necessity, run down a portion of the earth's surface to bring it up again. It means a long, hard fight, but such work makes men and women of those who engage in it, and gradually increased prosperity is certain, with proper management. The oak land named above needs, first, thorough tile draining about three feet deep. Perhaps it would be better to say it needs underdraining. The best and most lasting job can be done with tiles, but board drains can be made to do good work for quite a number of years, where tiles cannot be obtained cheaply. Good drains can be made of stones, but it takes much more labor than it does to put in tiles. This draining will dispose of stagnant water in the soil, which is injurious to vegetation, and it will let the air work in, which tends to increase the available fertility. Then slowly, but regularly, more vegetable material must be returned to the soil than is taken off. The two together will do away, practically, in due time, with crop lifting by frost. They will, in connection with proper tillage, prevent about all injury to corn by dry weather. It will enable the farmer to produce as many bushels of wheat per acre as he did when the land was first cleared, and more. Yes, man can beat nature, but he must be governed by her laws. Good tiles, properly laid, are superior to stump roots for draining land. Man can double the depth of oak land soil, often, in a few years, and fill it with humus clear through. Now you can read this over, my good friends, in a few minutes, but it means long years of hard work to put it in practice. But there will be success at the end, if you manage rightly, and the noble feeling of having conquered, and of having made the world better. With underdraining well done and plenty of humus present, clover will do better. The draining, in connection with tillage and humus, will also unlock stores of plant food that are now unavailable. With proper management the money invested in thorough drainage can be made to bring in a larger interest than the same amount would if loaned to a neighbor, in many cases much larger. The returns will depend somewhat on the crops raised, of course. Peas will help you greatly, my friend. Get all you can out of the growing of them. Note well all that Prof. Massey says on this point. I presume you p[illegible]the growth under and made the s[illegible] loose for wheat, adding too much vegetable material at once. Drain a little land well, to start with. Put good cement floors in all your stables. Keep more stock and feed out crops on the farm. Feel your way along slowly. You can conquer and be of great service to the community in which you live by your example. The P. F. will gladly help you with any needed details.

Health Hints.—How Many Meals a Day?—The letters received show that there is a great deal of interest in this matter. The opinions of the various writers differ considerably. First, here is a friend 76 years old, Samuel Powell, St. James, New York. He has been used to three good meals a day, and has never felt any bad effects, he thinks. To prove it, he says he has never laid in bed a day in his life from sickness. This looks as though three meals a day were all right for Mr. Powell, surely. But, now, hold on a minute. Because one has never been sick abed it does not follow that he has not overeaten and had bad effects. One may have one or more of this long list of troubles: Headache, pain in the stomach, occasional spells of nausea, flatulence, sore throat, cankered mouth, bad taste in the mouth, dizziness, faintness, constipation, nervousness, diarrhea, palpitation of the heart, insomnia, continual hunger, loss of appetite, rheumatism, catarrh in the various parts of the body, and a score of other common ills which are caused largely by overloading the system with food. One may be cross, blue, hard to get along with, life a burden, and still not sick abed. Now, my good old friend, I do not mean that you have any of these troubles. I am simply writing in a general way. The world is full of people who are rarely sick abed, but who do not enjoy perfect health by any means. An example was given last week. Such people do not often stop to think that there are good reasons why this is so. They are violating some of the laws of health. Health is the natural condition. Ill health does not come without a cause. Again, Mr. Powell may be a very moderate eater of plain, wholesome food, and an active man, living in fresh air. He may eat three meals a day and still not take any more into his stomach than is needed. Really, the number of meals a day is not so important as that we eat proper food and not too much for our individual needs.

Now we will take up the other extreme. The following was written by Walpole Nockolds, Oakley, Texas, last fall: "I am postmaster here, and manage a small general merchandise business and also cultivate a few acres of land. This gives me good out of door exercise. Was raised in England, where we used to eat five times a day. Came to the U. S. in 1888 and then adopted the 3-meals-a-day plan. Some time ago I got hold of a copy of Dr. Dewey's book and tried two meals a day for a time. For about three months I have got down to one meal a day, for the most part. Occasionally I have got hungry at night, or old habits made me think I was, and ate a little. But I notice that when I only eat one good meal a day, at noon, that I feel fresh and buoyant all the time. When I eat more at night I feel somewhat dull and heavy the next morning. So I have concluded that one meal a day is best for me." Notice that this is not mere theory, friends, but a statement of facts from an observing man; his experience. My own experience makes me quite certain that he is right, for his circumstances and individuality. If friend Nockolds weighs about a normal amount, and is holding his own, and feels fresh and buoyant all the time, one cannot ask for anything better. These two experiences show that people differ in their make-up, or think they do, or the circumstances are very different. One of my best friends said some nice things about me the other day, but added that I was a little bit cranky about eating. Some of you will say the same about our Texas friend. But let me assure you that he, with his one meal and the writer with his two moderate ones, is doubtless getting about what nutriment his system needs, and no more to clog up the circulation, and poison the system more or less, and make trouble sooner or later in various ways. Now, I hope none of you think I am unable to observe plain results, and I further hope you do not think I would tell what was not true. Most earnestly and emphatically I say to you all, dear friends, that my general health has been vastly improved, that I can do two or three times as much of my work in a day, since I learned to not eat more than about half as much as I used to. The same results may be obtained from eating one, two or three times a day, if you will eat only plain, wholesome, but proper food, not too much of it, and chew it well. I have found it more satisfactory to do this in two meals than in three. By eating only plain food and chewing it well, I can satisfy my appetite and enjoy my meals as well as any growing boy and only care for two light ones per day. I certainly have tried the plan long enough to know. I am more than holding my own in weight. But, best of all, I am real well.

A friend, whose address has been lost, asks the following question: "I not only read your 'Health Hints,' but endeavor to live up to many of them. I have not followed the 2-meal-a-day plan yet, because the family would not agree to it. But I have noticed that days when I went to market, or was away in the middle of the day, on business, that I did not in any way miss the noon meal. My friends tell me I should have managed so as to eat just the same. What do you say?" I say that you should follow nature and her calls rather than old habits. I say that the fact that you do not miss a meal is an absolutely sure proof that you are better without it. It looks as though it would be better to miss every dinner, but one cannot be positive about this except from experience, people and surrounding circumstances differ so much. We are largely creatures of habit, however. If you were around and saw others eating, you might, as a matter of habit, be hungry, although not needing food. You are away and see no food, have nothing to recall the habit, and nature not needing any more does not call for it. I know it is better for me to do this way every day, but have breakfast late and supper early. I positively assure you that you are better without those single meals you are missing. An occasional fast of this kind, when one is eating three meals a day, the loss of a meal that is never missed, especially, cannot be otherwise than helpful.

T. B. Terry.

Getting at the Reasons Why.

WM. H. WHEELER.

I have been glad to see the P. F. urge farmers to attend agricultural colleges—the short courses, if no more. I would add that the correspondence courses given by some of the colleges are of great benefit to farmers who cannot leave home even to avail of a short course. Simply reading the text books used will not be of half the advantage. I flattered myself that I could absorb the teachings of a book pretty well by reading it, but I have been astonished at the new light developed from some of them by reading the comments and questions of some of the Pennsylvania correspondence courses. And I am sure I don't "know it all" yet. If I did I would discontinue my subscription to the P. F. Some of my ventures on the farm succeed and some fail. The P. F. keeps telling one the reason why.

A great many dairymen have an idea that they must feed a certain proportion of green vegetation, silage, roots, etc., to cows to supply succulence. This is an idea of long standing, though I have wondered at some successful dairymen who fed only hay and dry ground grains in winter. And now Director Armsby of the Pennsylvania Station tells us that young, tender grass, with its narrower ration than is found in older grass, if properly cured and handled, and none of the leaves broken off and lost, is as effective in the dairy when fed dry in winter, as when cropped by the cows in the field in June. The butter from it, we all know, will sell for twice as many cents per pound as butter brings in June. Farmers who act upon this knowledge will make money thereby, for there is no danger that enough will do so to overstock the winter market for fresh butter for a long time to come. Thus we see the moisture included in the feed "for succulence" is as useless as the "filler" some people put with their commercial fertilizers, except so far as some of it may be useful in checking a tendency to constipation. Mr. Terry some time ago opened the eyes of more than one P. F. reader (myself among them) to the fact that there might be too much of this same succulence. An inquirer wanted to know why his cows had shrunk in yield of milk when he put them upon green feed with the right ration of protein to carbohydrates. Mr. Terry suggested that the cows simply could not hold enough of the watery feed to contain the nutrients necessary for the production of their maximum yield of milk. They needed dry feed for a part of their ration when the rest had so large a water content. That, I think, is a reason that will bear repetition to farmers more than once.

Lane Co., Ore.

Alfalfa.

JOHN W. BRYAN.

I have been a reader of the P. F. for many years, and have always been very much interested in it, and especially so in the letters of T. B. Terry. Of late I have read with much interest, his letters on the growth and culture of alfalfa, as I have grown this crop with great success for the past thirteen years, and can say, with Mr. Terry, that it is a wonderful crop, and I would like to co-operate with him in trying to convince other farmers of its worth. Beyond a doubt it is the best friend that a farmer can have, not only on account of its heavy yielding qualities, but also on account of its value as a fodder for any kind of stock. There are several points on which I disagree with Mr. Terry, based on my thirteen years experience of growing the crop on my farm, situated on the banks of Eel River, in Humboldt Co., on the northwestern coast of California. Mr. Terry insists that very rich soil is required for the successful growth of alfalfa, but it has been my experience that alfalfa will grow where nothing else will, provided that there is water within 75 feet of the surface of the earth. On light, sandy soil, where other crops have utterly failed, I have cut five crops of green feed for stock, and other years three crops of hay, averaging from 6 to 8 tons per acre, and this without irrigation. Alfalfa does not reach its best state until the third year of its growth, and to give the best results should not be pastured, but mowed and fed as grass, for it tramps out very easily where it is pastured for any great length of time. It may be sown with oats but it will thrive as well without, and in sowing, about twenty-five pounds of seed should be used per acre.

To renew land and to kill weeds or briars, I know of nothing half so good. It will kill any weed known to California soil and leave the land fertile. The crop will stand for an indefinite period, and in plowing the sod, I would advise the use of four instead of three horses, unless they are very large; and a very sharp 14 or 16-inch plow is required. After an alfalfa field has been plowed under the soil will be found to be exceedingly rich and produce far in excess of former years. One large field where I had plowed under a stand of alfalfa, produced a crop of corn averaging 113 bushels per acre. With irrigation, alfalfa flourishes exceedingly well, but in Humboldt, where we have from 50 to 72 inches of rainfall every year, irrigation is hardly necessary.

Humboldt Co., Cal.

QUERIES

Answered by the P. F. of Philadelphia.

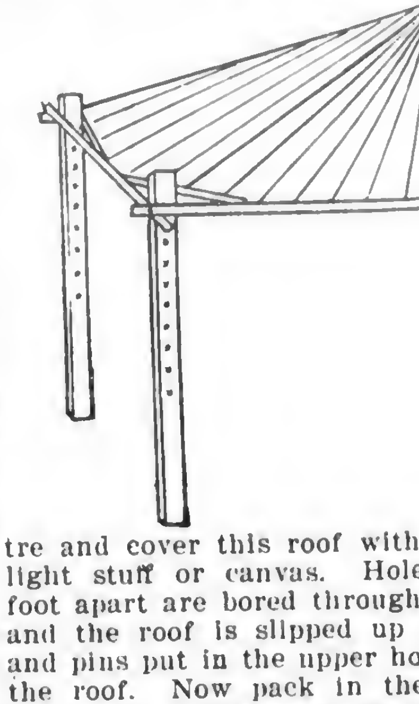
We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Rye for Winter Pasture.—Subscriber, Tazewell, Tenn. — "I want to sow some rye for winter pasture. Please tell me when I should sow it." Rye for winter pasture should be sown early enough to get a good fall growth, hence we would sow it first week in September.

Buckwheat.—B. T. Wilbur, Rochester, Mass.—"Please tell me about buckwheat and its after effect on the land." Buckwheat is a crop of some importance in certain parts of the country. It is more largely grown in the cool mountain sections where corn is more uncertain. It can be sown after small grain crops have been harvested and no clover has been sown. Its cultivation is of the simplest. The land is prepared and the seed sown broadcast about the first of July or a little later. To make it more certain to germinate at that season of the year a good rolling of the ground is essential after sowing. Formerly it was the practice of some who believe in what is called green manuring, to sow buckwheat to be plowed under when grown for the benefit of the land. It doubtless added some organic matter to the soil, but unlike the legumes, does not get any nitrogen from the air, and plowed under in hot weather, it is apt to do more harm than good. Mr. Crozier, of Long Island, relates that he plowed under some buckwheat and the land failed to produce good crops for several years afterwards. Buckwheat is rather a troublesome crop to cure, and it is not ranked usually with great profit to the farmer. The Japanese buckwheat is probably the best variety. Like any crop that grows quickly in hot weather, buckwheat makes a heavy draft on the soil. There is little room for it in an improving rotation.

Alfalfa in Arkansas.—A. J. Umholtz, Tum. Ark.—"Would alfalfa do for part of the grass in a permanent pasture, and would it be a good covering in a bearing apple orchard? If not, what kind of grass will be best for this purpose?" Alfalfa would of itself make a fairly good permanent pasture, but we do not think it would be a success mixed with grasses. In an orchard the alfalfa might answer, if mown frequently and allowed to remain on the ground as a mulch. No orchard should ever be used as a meadow for hay, or as pasturage and you will find that a mixture of orchard grass, red top and blue grass will be better in the orchard, if kept mown and allowed to remain to mulch the land. A correspondent in North Carolina who has been taking our advice in regard to his orchard writes that now his orchard looks like a beautiful lawn and the trees are thriving with the grass treatment.

Roof for Hay Stack.—Ernest Wykes, Forest Grove, N. J.—"Can you give us particulars of construction of a roof for stacking hay under with poles at corners, mentioned in a recent number of the P. F.? Show how roof is made to slide on poles for adjustment in height, etc." Get poles or 3x4 sawed stuff not less than 16 feet long. Set them in a square 8 feet apart and 3 to 4 feet in the ground, well rammed and plumb. Around these make a light, square frame of 1x4 stuff with cross-pieces nailed across the corners for the posts to slide through. Then from these corners make a frame of four pieces of light stuff coming to a point in the centre and cover this roof with very thin light stuff or canvas. Holes about a foot apart are bored through the posts, and the roof is slipped up to the top and pins put in the upper holes to hold the roof. Now pack in the hay, and then as it is taken out the roof can be slipped down and kept near what remains to shelter it. We do not know that we have made ourself perfectly plain, but we suppose you can understand it. We have used these shelters largely where it was too far to haul to the barn and they will hold more than an ordinary stack and keep it well. The sketch may help you.



Draining and Other Matters in Tenn.—R. Jellicorse, Elmwood, Tenn., says that last winter he tried to drain a swamp of about an acre with 3-inch tiles. But when a heavy rain came it filled the swamp about a foot deep and it took seven days for the tiles to carry off the water, and wheat on the land was drowned. The swamp catches the water from four or five acres of land. Tiles are three feet deep and had a fair fall. "Have thought of taking up the tiles and replacing them with a white oak box a foot square, which I think would carry off the water. Would this size be too large? Should I bore holes in the plank, or will water get in at the ends? I have another swamp in which there is a strong wet-weather spring, which I intend to drain in the same way. Should I run the tiles into the spring or put a barrel there and let the tiles into it to prevent choking? I think this swamp will take fully a 12-inch tile, as it is full of seepy places. My wheat has been badly hurt by rust, and the grains are shrivelled. Would it be well to use this for seed, even if it germinates freely? I have been fairly successful in getting a stand of clover sown on wheat in February. No one here sows in the fall. Do you know how fall sowing does in this climate? Can get a stand of clover on the richer spots on my land, but fail on the poor places unless manured. Am running a 3-year rotation and rapidly improving the land, and am sowing peas where clover fails, and getting a great deal of roughage, which I feed to steers in winter, and am getting more and more manure. Last winter had 117 loads and 12 tons of tobacco stems from a tobacco factory nearby. Clover seems to do well here, and is almost perennial. I have a good stand this spring on land that was in clover in 1881 and yet last year in plowing for corn there was still a great deal of clover on the land. Have a bunch of shoats on a blue grass pasture and am feeding them middlings at $21 a ton. Bran is $18 per ton. Had I better change to bran?" We have quoted so far as possible from the long and interesting letter of our friend, and hope we have gotten the important items. You make the same mistake that many make in supposing that underdrains are intended to carry off the rainfall rapidly. We underdrain the lower, the general, water table in the soil and thus enable the water to sink more rapidly in the soil. But where a swamp is surrounded by high land that throws a great deal of water on it in heavy rains, no system of underdrains will carry it off quickly. What you need, I think, is a ditch all around next to the upland to prevent the water from the higher land flowing on the swamp. An open ditch around the base of the high land will do this effectively, I believe. In the swamp you propose to drain we would make the same cut off from the high land and would make the main drain of large tiles and then put in laterals leading into it, quite closely together, and as deep as the fall will allow. We would let the tiles remain. Wooden boxes will answer very well as underdrains, but should not have any holes bored in them, as the water will get into them readily at all the cracks, and we would make the plank break joints on alternate sides. We would suppose that fall sowing of clover should be a success in your climate. In our warmer climate the fall is the only time to sow. If the fall sowing fails you will still have the spring to sow in. With the pigs we would certainly change to bran, even at the same price per ton. We are glad to learn that you are feeding stock and making manure. Would that all our Southern farmers could see the advantage of doing this.

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Crimson Clover and Pea Hay in S. C.—F. C. Whitner, Rock Hill, S. C.—"Will it be practicable to sow crimson clover in cotton about the first of September if I first broadcast 300 pounds per acre of a mixture of five parts acid phosphate and one part muriate of potash scratched in with a 5-tooth cultivator and then sow the clover seed, following with a roller made to fit the rows? After the cotton is picked, the stalks would be cleaned up and an application of nitrate of soda made in the spring to forward the clover, so as to make the hay and follow with corn. The land in cotton was last year in peas and was thoroughly plowed and prepared for the cotton. If we can grow legumes successfully here in winter the practice will greatly enhance the value of the land for cotton. Could not vetch and oats be sown in the same way? What is the relative value in hay and the improvement of the land in cow peas sown broadcast or in drills and cultivated. Can oats straw be utilized to advantage in the curing of pea vine hay by putting it in alternate layers with the hay as stored? I have heard that it improves the feeding value of the straw. The straw alone can be sold for $8 per ton and the pea hay alone for $12 per ton. I have about 15 tons of oats straw and hope to have 30 tons of pea vine hay. As the curing of the peas is rather difficult I would like to utilize the straw. I am new at farming, and have been very much interested in it during the two years I have been reading the P. F., and have derived much help from Mr. Terry and the Editor." It is perfectly practicable to sow crimson clover among the cotton in the way you suggest, and it is often done here. But we would leave out the nitrate of soda in the spring, for if nitrogen is supplied to the clover it will do less nitrogen fixing from the air for itself and the nitrate will be a disadvantage rather than a help. Vetch and oats can be used in the same way and will make a fine hay crop. Both crimson clover and vetch succeed better when the soil gets inoculated with the microbes that live on their roots. Soil from a field where the clover has succeeded scattered thinly over the land will help do this, and for the vetch get some soil from an old garden where garden peas have been long grown and use this for the same purpose. If every cotton field in the South was sown in crimson clover or vetch in the fall we would soon see a rapid improvement in the land, particularly if the clover or vetch is used for the feeding of cattle and the making of manure for the land. A friend in South Carolina found that the scattering of stable manure between the cotton rows in August was a great help in getting a stand of clover. The putting of oats straw in layers with the pea vines may do no harm, but will not improve the straw itself as feed, and we find no difficulty in curing the pea vines in the way we have often described in these columns, and we still have last year's pea vine hay in good condition, though our barn is now well filled with the wheat and vetch hay. We were at one time coming to the conclusion that it would be better to drill and cultivate peas, but further trials of both methods have satisfied us that for hay or soil improvement the broadcast method is the best. When planted in rows for hay we found that the vines tumbled over on the open spaces so badly that the mower failed to cut them and we had to send men with scythes through to cut them clear. For soil improvement the broadcasting is far better than drilling.

Orchard Grass.—S. T. Bradley, Halltown, Mo.—"I enclose a head of grass. Please tell me what kind it is and if it is of any value. I found it in my orchard in March and it is now about four feet high. Cattle eat it, but no one knows anything about it here. I am a reader of the P. F. and think it a fine paper." The grass is the well-known orchard grass, Dactylis Glomerata, and is one of the most valuable of our pasture grasses. It also makes good hay if cut as soon as the head shows, but if left longer it rapidly becomes worthless for that purpose.

Clover, Sorrel and Lime. — H. W. Roeder, Farmer Valley, Pa.—"What is the best way to apply lime to the soil? Would it be well to spread lime with stable manure in the manure spreader on new seeding? Two years ago I tried some lime dropped in piles about twenty feet apart to slake on sod, and then plowed up to the piles and spread it over the plowed land, prepared the land, sowed wheat and seeded to clover the next spring and got the finest catch of clover and can now see right where the lime went, as the clover is a darker green and there is but little sorrel. Where there was no lime the clover has turned yellow and the sorrel is taller than the clover, but where the lime was slaked the clover is rank and not a bit of sorrel on these spots. Prof. Cooke told us, at our Institute, that from the timber growth on the hills our soil does not need lime. What do you think of it? How much can we afford to pay for lime, and do you know a place where we can get it? Some of the farmers say the dry falls kill our clover, but it does not kill my clover where I put the lime. We thank T. B. Terry for our manure spreader and manure shed and the blue flame oil stove we got of The Farmer Co." We would never mix lime and manure, since the lime tends to carbonate the ammonia in the manure and causes it to evaporate. In our experience, the best place to apply lime is on the clover the second spring after it is sown. We would not drop the lime in small heaps on the field, but would pile it convenient to water and slake it with water until it falls into powder. Fresh water-slaked lime is far more effective than when air-slaked. Your experience with the clover and sorrel seems to show that your land is in an acid condition, and the clover will not thrive where this is the condition, while sorrel will. Not that the acid in the sorrel comes from the soil, for it really comes from the air through the assimilation of carbon by the leaves, but it will grow and thrive on acid soil while clover will not, hence, when you restore the alkalinity to the soil by the use of lime the clover is able to smother out the sorrel, which does not thrive when the soil is alkaline. No timber growth is any sure indication of the needs of the fields which have been long in cultivation, the soil of which has been thereby considerably changed, and experience with the land in cultivation is of far more value than guesses at what it would need from observation of the timber growth. The price of lime varies greatly in different sections, and we are sorry to say that we cannot tell you what is the best place to get it at as we are unacquainted with the Pennsylvania lime burners. There is a great deal of lime produced and sold for agricultural purposes at Wrightsville, Pa., but we are not acquainted with the manufacturers nor with their prices. A fair price would be from two to three dollars per ton. Ground lime, if fresh and not slaked, is a very good article to apply, but we have always used the lump lime slaked with water. An application of from 15 to 20 bushels per acre, repeated every 3 or 4 years is far better than a heavier application at longer intervals.

Tomato Rot and Boll Worms.—S. H. Lane, Jacksonville, Tex. — "We are in trouble here with our tomatoes, of which there are thousands of acres in this county. Last year they were attacked by worms, and again this year, both the worms and the bloom-rot doing much damage. Please tell us how to prevent the bloom-rot and to keep off the worms next year." The "worms" as you call them are doubtless the larvæ of the same moth that lays the eggs from which the boll worm in the cotton and the corn worm in the roasting ears are hatched. The moth seeks the place for laying eggs that is at the time most accessible, and as the corn and tomatoes come earlier than the cotton, they are selected. There are in the South five broods of these worms during the season, and they attack tomatoes, corn or cotton, whichever is ready at the time the brood appears. The eggs are laid on the young fruit. The eggs are small yellow, flat disks. The rot of which you speak affects tomatoes everywhere. The rot can be controlled by thorough spraying with Bordeaux mixture, beginning as soon as the plants are started in growth in the field. When the plants bloom, add a quarter of a pound of Paris green to 50 gallons of the Bordeaux, and do the subsequent sprayings with this until the tomatoes are half grown.

Improving Virginia Land. — M. J. Johnson, Manchester, Va.—"I have 25 acres of poor, sandy land which I am trying to improve. Sowed Black peas last year and plowed them under and sowed rye, and plowed that under this spring and sowed peas again, which I intended to turn under in the fall and sow orchard grass and clover. But what you say about green manuring has made me uneasy, as I am a green farmer, living in the city and employing teams with store and coal yard, and thought I could make hay enough on this land for my teams in summer when they have little work to do. I want to build a hay barn, and would like you to describe one suited to the place. I intend to use what stable manure I can haul on the place this summer for top dressing next winter." There is serious danger in our climate in the turning under of green growth in hot weather. We would advise you to mow the peas you have sown this spring as soon as the first pods show yellow, and cure them for hay in the way we have often detailed in these columns. We have kept horses well with no other feed in winter than pea vine hay, but horses hard at work will need more grain feed. After cutting the hay you can prepare the stubble for sowing the grass and clover. We would spread all the stable manure you can get on the land as soon as the peas are off. Turn the land and prepare it well and seed the grass and clover in September without any grain crop. We would sow a mixture of ten pounds of orchard grass seed and ten pounds of tall meadow oats grass per acre, and after sowing the grass seed would sow ten pounds of medium red clover seed per acre and then harrow lightly with a smoothing harrow. Then during the winter any manure you can get may be applied as a top dressing lightly. On a small place like this, which you intend to devote to hay alone, we would simply build a barrack for the hay. That is, a building with tall posts and roof, open at the sides. Such a shelter will be all that you will need to protect the hay, as from what you say there are no stock on the place. We would simply set the posts in the ground and have them about 12 to 16 feet high and then build a roof over. Later on, if needed, you can build a regular barn.

Plant for Name. — Frank Moore, Reynoldsville, Pa.—"I enclose a plant. Please tell the name and nature." The plant is one of the Hieraciums, or hawkweeds, probably the Orange hawkweed, though it is rather early for this to be in bloom in your section. But any of the family are bad weeds and should be gotten rid of as rapidly as possible. The specimen was not in perfect condition for positive identification.

Apple Pomace for Feed.—F. E. Gilson, Groton, Mass.—"What is the value of apple pomace as a feed for milk production, and how can it be kept without a silo?" Apple pomace has 1.4 per cent. of protein, 16.2 per cent. of nitrogen-free extract and 1.3 per cent. of fat. It has been preserved in silos successfully at the Massachusetts Station (see Massachusetts Bulletin No. 21). In the report of the Pennsylvania Station for 1886, page 169, is given a method of drying it for use. The Vermont Station made an experiment in feeding ensiled pomace as a partial substitute for corn, which was a success. Correspond with your Station, Amherst, Mass., on the subject.

Floats for Alfalfa.—J. V., Nashville, Tenn.—"What is the value of non-acidulated rock for alfalfa?" Where the pulverized phosphate rock can be had cheaply, as it should be at Nashville, we would consider it a very valuable dressing for alfalfa that is already established, for, although the chemists call it insoluble, and some of them assign no value to it in an analysis, we know that it does become available to plants in the soil, and that this slow solution is what is needed with a perennial plant like alfalfa. This is our notion about it, though we have never tried it on alfalfa, but from results on other crops we are sure the theory is right.

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Sorghum Fodder.

PROF. A. M. SOULE.

The unprecedented rainfall of April and May in some sections of the country combined with the drought which prevailed in others at the same time made it impossible for the farmers to plant the usual acreage of corn. From the present outlook there will be a great shortage of this very important cereal which has done so much towards establishing and maintaining the prosperity of the American farmer. On fall plowed land corn is all right, which makes it more evident to the mind of the writer that greater attention should be given to fall plowing for corn, especially in the Appalachian region. Let that be as it may the farmer is confronted with a shortage in his best known crop and as the season is now far advanced it is only in favored sections where reliable varieties of 90-day corn seed can be secured that the crop can be successfully replanted. Even then the season may not be propitious and a large amount of additional time and money wasted.

In this crisis in the affairs of the farmer it is necessary that some supplemental crops be decided on at once and sown as a substitute for corn. Many people will wonder if it is possible to find a substitute for that important crop and in one sense of the word they are justified in raising the question, for it rarely has happened in the history of the world that one plant has combined so many excellent qualities with such an extensive field for cultivation as the United States affords. While corn is king when the yield of grain and fodder is considered, it has a close rival in sorghum, a plant adapted for cultivation over an equally extensive territory and which possesses some marked advantages over corn. In the matter of grain yield it falls short of corn both in respect to quantity and feeding quality, though in the last respect it compares fairly well. So far as the yield of hay or green or cured fodder is concerned it clearly has the advantage as to yield and quality. There is no comparison between the feeding value of shredded stover and cut sorghum fodder including the grain heads. Someone says the comparison is not fair, but the chances are this season that the sorghum will head out well and make good grain heads, while the late planted and drought smitten corn will ear indifferently at best. The feeder who has the sorghum fodder will thus have a decided advantage so far as the relative nutrition of the two is concerned.

Sorghum also has some decidedly valuable qualities which are frequently overlooked from lack of familiarity with the plant, and because of the strong general belief that it destroys the land. In 1900 a crop of corn whose green weight per acre averaged 35,200 pounds took 144.3 pounds of nitrogen, 52.8 pounds of phosphoric acid and 116.2 pounds of potash from the soil. A crop of sorghum under similar conditions and planted as a "second crop" several weeks later than the corn, yielded at the rate of 23,700 pounds of green feed per acre and took 54.5 pounds of nitrogen, 21.3 pounds of phosphoric acid and 54.5 pounds of potash from the soil. Increasing the constituents taken from the soil by sorghum one-third to make the yield equivalent to the corn fails to balance up the draft on the food elements of the soil by nearly one-half, so that sorghum is not so hard on the land as some imagine. The reason it injures the land is found in the fact that it is a shallow-rooted plant while corn is a gross feeding plant and so distributes its roots widely in the soil, and hence does not exhaust the surface soil of available food supplies so rapidly as sorghum. If the land were more deeply plowed for sorghum so as to facilitate the distribution of its roots, it would gain a better reputation. Sorghum also has a peculiar advantage in being able to tide over drought periods, whereas, a few days of dry weather at the time of flowering with corn compasses the destruction of the crop. Sorghum under such circumstances seems to remain inactive, so far as growth is concerned, until weather conditions become more favorable when it again starts off as if nothing had happened. For these reasons the yield of sorghum fodder is often much greater than that of corn. For example, the average yield of corn stover when shredded varies between 1½ and 2½ tons, while sorghum fodder frequently yields from 5 to 10 tons of well cured, nutritious feed.

Sorghum can also be utilized to advantage as a catch crop and for soiling purposes it is unexcelled, both by reason of quality, but especially on account of the long period through which it will remain fresh and in condition to use for soiling purposes. Some claim that it is extremely difficult to cure it as fodder. Having had several years experience with both corn and sorghum, it is not improper to say that it is not more difficult to handle in this respect than corn stover. Those who have tried the latter know how very necessary it is to exercise the greatest vigilance in handling the latter or else it will heat and mould in the barn. Sorghum fodder where the yield is heavy could never be shredded and put in a large mow similar to corn, for it would never cure out sufficiently for that purpose. If handled as outlined, however, it can be kept in the best of condition without extra trouble or labor. Grow the sorghum in two and one-half to three feet rows. Cultivate like corn. When the seed heads are almost ripe, well beyond the dough state, and some of the surplus water has of necessity been evaporated from the plant, cut and tie in bundles with the corn harvester. Allow to wilt on the ground for several hours if the weather is favorable. This permits a part of the water and some of the acrid juices to escape. Next, set up in large shocks, being sure to have them perpendicular. Tie securely to five feet from the top and again close to the top. By using a rope with a ring in one end the bands can be put on securely and the top so compacted as to virtually turn all water. Allow to field cure as long as the weather remains favorable and then haul in the sheaves to the barn and store by setting on end, crowding as closely together as possible. Do not stack on top of each other for it will rarely, if ever, keep when so placed. When well shocked the fodder will remain in the field for months with but little injury and will retain a considerable amount of appetizing juice and a delightful aroma. These characteristics are so marked that it has been successfully siloed months after cutting. The space occupied in storing is an objection, but is fully offset by the advantages of yield and quality of fodder. Many persons who have found sorghum fodder unsatisfactory make the mistake of cutting it entirely too early for the best results. As may be imagined, the fodder is eagerly eaten by stock and they do well on it. Stock cattle fed on it last winter with a limited meal ration of four pounds per day, gained 1.15 pound per head per day; on Kaffir corn fodder the gain was 1.04 pounds; on stover .97 pounds. Considering the yields obtained last year on the Station farm it would have required the fodder produced on .93 of an acre to feed four yearling steers weighing 800 pounds for 150 days. Under similar conditions it would have required 2.5 acres to produce the Kaffir corn and two acres to produce the corn stover.

These facts make it clear that more attention and consideration should be given to the virtues of sorghum for fodder. There is very little, if any, danger of poisoning from sorghum in the East; nitrate of potash, the injurious salt, only forming in dry regions and chiefly in the territory west of the Mississippi.

Tennessee Experiment Station.

Helping Out the Cow Pastures.

JOHN E. READ.

The growing of crops for the purpose of making up a deficiency of feed in the cow pastures during the dry weather in summer is a comparatively recent custom. I mean, of course, the general production of such crops. Doubtless there were farmers fifty or sixty years ago who planted or sowed crops especially for summer feeding, but they were very few in number and their work in this direction was on a quite limited scale. The merits of the plan were recognized rather slowly, but in time they led to its pretty common adoption by the progressive farmers in all sections in which dairying had become an important interest. Consequently, it is not necessary in an article on this subject to urge my readers to commence the growing of green forage crops for summer use. The man who reads the P. F. or any other farm paper, and whose work is along the lines in which such crops are useful, have already put them to the test. But there is reason to believe that some of them are not growing these crops as largely as they might do with benefit to the stock and profit to themselves. Then, too, the mere growing of something to help out the pastures is not all that is to be considered. The results of the work will largely depend upon the quantity and quality of the crops, the location of the fields, and the methods of cultivation. So it may be well to consider the matter, even though we are all agreed as to its importance and have all decided to do something along the line that has been indicated. Quantity is mentioned first because it is a very common error to grow less summer forage than the stock could profitably use. While mere abundance cannot atone for a deficiency in the quality of food, it will do more towards keeping an animal in comfort than can be done by a very small quantity of much better material. There must be quantity as well as quality to either satisfy the appetite or to enable the creature to reach its greatest possible rate of productiveness. So it seems best to plan for a very liberal amount of this extra summer feed. The quantity absolutely required will vary with the character of the season. If the weather is favorable we can get along with less than should be used if there is an unusual shortage of feed in the pastures. But it is not wise to try to see how little will carry us through. It is far better to grow enough material to liberally supply all possible needs of the animals from the time the pastures begin to fail until the coming of cold weather. If there is more material than is likely to be used for summer feeding, the surplus can be either used for ensilage, or, later on, be cured for use as dry fodder in winter. The quality of the green forage will depend largely upon the kind of plants that are used, but it will also be greatly modified by the way in which it is grown. Indian corn is sometimes sown broadcast and makes a rank growth, but its feeding value is very much less than that of the smaller quantity which would be obtained from the same kind of land if there was a much less quantity of seed that was planted in drills. Even with the latter method there is a very strong tendency to have too thick a stand. I strongly favor less stalks and more ears than are found in the average field of fodder corn. With the cow pea, which is of great value for this purpose, the tendency should be toward thick rather than thin seeding. As to the soja bean, which is also a desirable forage plant, I cannot speak from experience, but judge from the appearance of the crop when growing that a rather liberal quantity of seed should be used. Of the two plants last named, early varieties should be chosen for use at the North.

The matter of location is also one of considerable importance. As a rule, crops should be grown where they thrive the best. But when considering where the crops for helping out the pastures are to be grown, another, and a very important matter is involved. This is convenience to the place of feeding. Unless the land was decidedly unfit for their production, I would grow these crops near the barn. I would do this even though cultivation would be easier and the yield larger in a more distant field. For, the harvesting of these plants extends over a long period. And the work must be attended to day by day and in bad weather as well as when it is pleasant. There is a great saving of time, if we take the whole season into the account, and a considerable gain in the labor of hauling, as well as less exposure to storms if these crops are grown close by the barn.

As to cultivation, the old method, and to some extent it is still followed, was to broadcast the seed. This, of course, prevented cultivation. But the large growth obtained was at the expense of feeding value. If we want the best quality we must have the plants in hills or drills and we must also cultivate them. They need more sunlight and a freer circulation of the air than they can have if they form a dense mass all over the field. And where the planting is in drills cultivation makes larger and better crops, and causes both mechanical and chemical changes which not only promote the growth of the plants which occupy the land at the time, but also improve its condition for future plantings, as well as tends to suppress the weeds which are a great and persistent source of evil to the farmer.

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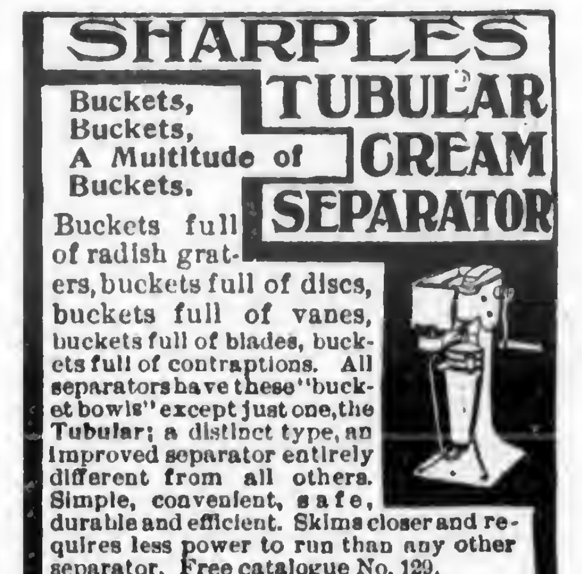
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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Paralysis.—I desire to know what is the matter with my sow, which is about 16 months old. Up to two weeks ago she appeared to be sound and healthy; since then she has shown signs of weakness of hind legs, so severe at times that she can hardly stand up. E. A. RECTOR.

Brownfield, Mo.

We have given advice on this subject many times of late under head of "paralysis," and must ask you to consult back numbers of the P. F. The trouble usually comes from nursing a litter of pigs when weak from long continued corn feeding to herself and her ancestors. Change food to middlings, ground oats, bran, flaxseed meal, milk or a combination of some of these nitrogenous foods which go to build up muscle. Do not feed corn, but let her have plenty of green food. Give nux vomica fluid extract three times daily, commencing with three drops at a dose and increasing a drop each day until the muscles twitch or she recovers. You will find advice regarding puncture firing of the muscles of the loins in other answers referred to. It is well that she is not in pig and she should not be bred until she is perfectly strong and well.

Ropy Milk. — About ten days ago the milk from my dairy cows became ropy after standing. I moved the cows to other pastures, but the milk continued to stay ropy. When I changed them back to the old pastures the milk started to improve, and is now almost as good as ever. A. F. SHERMAN.

Beryl, Pa.

The usual cause of ropy milk is indigestion, due to a change of food or to indigestible character of food used. In most cases, besides stopping the injurious food it is necessary to give a physic such as a pound of epsom salts and an ounce of ground ginger root in two quarts of warm water as one dose, slowly from a long-necked bottle. This is to be followed by a one-ounce dose of hyposulphite of soda three times daily in soft food or drinking water or as a drench. As a bacteria is doubtless to blame for the trouble it is necessary to scald and cleanse all milk utensils scrupulously, as they may contain the bacteria and so taint the milk after the cow is well. Further, it is often the case that but one cow is affected, so that when the trouble is experienced a sample of the milk of each cow should be retained in a separate vessel to determine which cow is causing the trouble. In our experience the condition alluded to is most seen in cows that have been long in milk or that are close to calving and ready to dry off.

Salivation. — Can you give any remedy that will prevent horses from slobbering, that run on white clover? J. J. ANDERSON.

McMinnville, Tenn.

There is no known remedy for slobbering upon white clover pasture, but it may be lessened by feeding dry hay along with grass. In aggravated cases small doses of powdered alum, a half drachm three times daily, prove helpful. The acrid principle in the clover, causing salivation, has not, to our knowledge, been determined, but it is found to a less degree in alfalfa and alsike.

Paralysis.—Please let me know what I can do for a valuable heifer (yearling). She came in from pasture about a week ago with the milch cows, showing stiffness in her hind legs. The next morning she was worse, and finally got down and has been so ever since. Thought at first she might have been poisoned by some weed, and gave her sweet milk and lard and followed it with salts. Since then I have given her warm milk from the cow night and morning, with clover and alfalfa grass mixed. Has a good appetite, bowels are open; can see nothing wrong except that she has lost the use of her hind legs. S. W. M. PETERS.

Berkeley Springs, W. Va.

As has often been stated, there is no such disease as "hollow horn." The horns of all adult cattle are naturally hollow. The paralyzed condition of this heifer may be due to one of several causes, of which an injury is one, and a clot or effusion upon the brain another, and most likely one in this case. Brain trouble seems to be indicated by the cow holding her head high. It was right to give the physic. Now give one drachm of iodide of potash and half drachm of powdered nux vomica three times daily and blister the poll just back of ears with a mixture of two drachms of powdered cantharides and one drachm of biniodide of mercury in an ounce of lard, rubbing it in for 15 minutes and washing off in 48 hours, after which apply lard daily. Keep bowels open with soft feed and if there is a tendency to constipation give rectal injections of warm water twice daily. If there is a clot on the brain recovery is doubtful.

Sick Pigs.—Will you tell me what ails my pigs? Their legs seem to be a little stiff and they limp a little; stand drawn up, shivering all the time; they want to lie or squat right down as soon as they stop walking. They are about 7 weeks old and are on a grass lot with the sow; are fed a little corn; have plenty of buttermilk and kitchen slop. They have no shelter and stay outside in the lot both night and day. MRS. S. W. WOODWARD.

Winchester, Tenn.

There can be little question that the pigs are afflicted with rheumatism, due to sleeping in a damp bed and exposed to the weather. They should be brought into a comfortable pen each night and the bedding and floor must be kept dry and well bedded. Would also advise changing food and leaving out the kitchen slop; also it might be well not to use the brass kettle. Instead of feeding corn use middlings, bran, flaxseed meal and dried blood meal in milk and allow a run on green food of any kind. To each pig give a dose of epsom salts in slop to move bowels. One tablespoonful for each would be about right, but if it did not physic them would repeat in two days, making the dose a trifle larger. Follow with ten grains of salol three times daily in apple, potato or any other way you can most conveniently administer it. Rub inflamed joints with soap liniment once or twice daily. If they are still suckling change food of sow as above indicated.

Nervous Mare.—I have a young, nervous mare, usually docile and a good leader, that has such a bad attack of "mares' spring fever" that it has become difficult if not dangerous to work her with other horses. We still drive her single, but it is not pleasant. I think she is 7 years old and think she has never had a foal. She was no trouble last year. She was served May 12th, and has been regularly returned since without service. If the service was effective it has increased the trouble, as she has grown gradually worse. WM. H. BLACK.

Floradale, Pa.

We do not know any disease commonly called "mare's spring fever," but presume this term is applied to extreme nervousness and inclination to vice in harness. It would have been better had you described her symptoms so that we might feel sure in prescribing. If she is simply nervous give her no grain of any kind, feed hay and bran mashes and increase daily work or exercise. If this does not suffice then give her bromide of potash in two drachm dose three times daily, increasing the dose if necessary after first day, but do not give it for any extended period of time. If we have failed to understand the case in question write again.

Cow Pox.—I have a fine cow with a calf about two months old. Cow is in good order; running on good clover pasture and giving a very good flow of milk. About ten days ago I noticed what seemed to be a blister on one of her teats, which broke when the calf sucked, and the skin came off, making a very sore place; in about two days blisters appeared on two more teats. Next her nose seemed to blister and get sore, and now her mouth seems sore and she slobbers some, and every morning her nose runs very profusely.

Calhoun, Ky. G. S. FORD.

She is probably afflicted with cow pox, which sometimes affects the mouth as well as the teats, but in many instances an acrid food will cause the mouth trouble without cow pox being present. Keep her off grass. Place her in a box stall away from other cattle. Give her a one-pound dose of epsom salts with an ounce of ground ginger root in 2 quarts of warm water and when this has operated give half an ounce of hyposulphite of soda three times daily. Let her food be soft mashes of bran, flaxseed meal and a little corn meal. Wash mouth twice daily with a solution of one ounce of either alum or borax in a quart of soft water. Wash udder with a solution of 1 ounce hyposulphite of soda in a quart soft water, and when dry apply glycerite of tannin to the sores on teats. Use a milking tube if necessary until sores heal up. Always milk cow, thus affected, after other cows have been milked and always wash hands with an antiseptic solution. You will doubtless find that the calf has also a sore mouth, in which case it should have same local treatment in mouth but no internal treatment. If calf is doing poorly it would be best to wean and hand feed on milk, dried blood meal, flaxseed jelly, or similar food.

Curb.—I have a 3-year-old colt that has a curb. I purchased her last November and have been trying ever since to remove it, but it is but very little smaller, if any. I have used an ointment that has been known to cure other horse, and have blistered it repeatedly, washing off and greasing. Now am using a very good liniment that has brought a very good blister. To the touch it does not appear like bone, but more like cartilage.

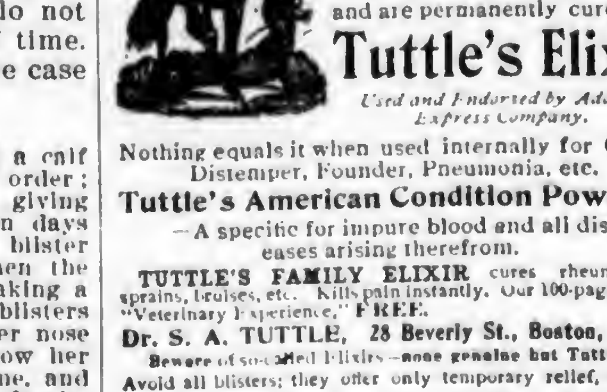
Cambridge Springs, Pa. M. H. DEAN.

We suspect that you have something other than a curb to deal with, for you mention bone and a curb is not composed of that substance; neither is it cartilage. Please write again and mark seat of trouble on the picture of a horse cut from a paper, or make a rough drawing of part involved.

Scrotal Hernia.—I have a fine, large draft colt one month old, which, to the best of my knowledge, seems to be affected with hernia. The enlargement is on the right side of scrotum, rather between the scrotum and right hip, and is about the size of a good sized teacup. I don't think there is any testicle on right side; there is no testicle on left side at all. Enlargement was there to some extent when colt was born.

Clarksburg, O. FOREMAN J. PECK.

As the testicles cannot be located in usual position it is possible that the colt is what is termed a "high flanker." In other words, the testicles may be high up on inside of groin just out of inguinal ring. This might make him appear ruptured. At the same time it is likely that he has an extensive hernia through the inguinal ring which prevents the testicles from descending, or may have them entangled in the bowel. Evidently this is a case for an expert veterinarian. Colt should be cast and by manipulation bowel should be returned to normal position, after which it is possible that testicles might descend if not held within the abdomen. It is a risky matter to castrate such colts, and there is a tendency for scrotal hernia to disappear as colt grows, but in that case the testicles are usually discernible. It seems to us that it might be possible to castrate the colt after reducing the hernia. This would necessitate what is termed the "covered operation," which consists in opening into the scrotum and locating the testicles within their envelopes, then putting on clamps, including envelopes and cord and allowing parts to slough off. We would strongly advise that this be not attempted at present. Watch the progress of affairs and if it is seen that the hernia is increasing in size have the operation performed at once. Chances are about two-thirds in favor of the colt if the operator is a skillful man.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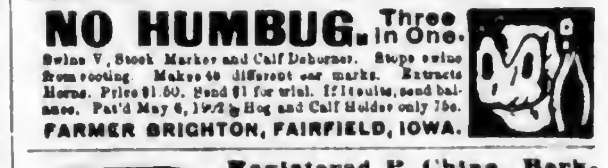
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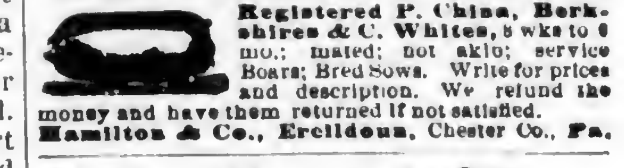
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

A Three-Quarter Acre Lettuce House.

Recently Mr. A. I Root, of Ohio, visited the establishment of S. Shisler, of Beach City, Ohio, and tells, in Gleanings, that this grower, nine years ago, took a notion to grow Grand Rapids lettuce, and for that purpose built a small greenhouse. His crop the first winter paid for the entire cost of the greenhouse and everything connected with it; every year since he has been increasing his area under glass until now his plant covers just about three-fourths of an acre. Without advertising or special effort, he has had more calls for lettuce, all the time, than he could supply. He usually sells his lettuce at from 10 to 15 cents per pound, according to the season. Mr. Shisler takes a crop off his benches every four weeks. He does this by using only potted plants. The seed is sown on good compost, far enough apart to give the little plants plenty of room, and when large enough, these are transplanted, say two inches apart in a good bed of rich soil. After they have made a pretty good root, they are placed in 2½-inch pots. These pots are set in trays similar to those used for selling strawberries. He uses the very best of compost, made of old stable manure and sandy loam, to fill the pots. The trays are watered by sub-irrigation, by setting them in a vat containing water at just about the right height. The water will then soak up through the pots so as to get them all exactly right. He grows the lettuce in these pots until the roots have gone all through the soil and begun to grow around the inside of the pots. When a crop is cut from a bed, the ground is worked over, and potted plants are put in the place of those taken out. He and his grown-up son attend to everything without any other help than that from the night watchman. This man is employed to fire up, and keep the temperature just right, and between times he does all of the potting of the young lettuce plants. Mr. Shisler, after experimenting with different styles of greenhouses, likes the even-span with butted glass, and roof not too steep, as well as any. As he is out in the country one mile from Beach City, he has no aid from the town waterworks. A windmill pumps the water into an elevated tank, and this gives him head enough to do all his watering. The houses are all connected. The gutters are down, perhaps, three or four feet from the surface of the beds. The beds are all on the ground. One peculiar feature about Mr. Shisler's work is, that he has grown fine crops of lettuce every winter for nine years, in the same ground. The earth has never been removed and replaced by fresh soil. He manures heavily. He hauls stable manure from the town, and works it over, letting it ferment until it forms a compost, and this compost is the only manure that he has found profitable.

After the last crop of lettuce is taken off—say about the first of May—the whole contents of the bed are permitted to dry up all summer long; in fact, they get to be as dry as dust, and it is possible that this thorough drying out sterilizes the soil, at least to some extent. Rot has given hardly any trouble thus far. When the sun gets to be so hot as to make the lettuce dark in color, and too tough, Mr. Shisler gives his glass a good coat of whitewash. The rafters of the structure are mostly pine. Some chestnut has been used, and this, if straight-grained and free from knots, does very well. No groove is provided for carrying off the drip water, and Mr. Shisler thinks it is not needed, as the drip has thus far done no harm. All this is related for the benefit of people so situated that they might grow winter lettuce profitably, and are willing to try it. In many cases hothouse lettuce can be made an important money crop.

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Talks on Timely Topics.

Potato Blight and Rot.—Our weather conditions have been peculiar this year. First we had a drought and quite warm weather; then frequent rains and mostly cloudy and cool weather—in short, just the conditions which favor the malignant potato rot that usually, if it does at all, comes in August or September. We had this rot "bad" last year. I now note signs of it on my earliest planted Early Ohios, and this notwithstanding the most thorough applications of carefully made Bordeaux mixture. I think I shall now be able to see for myself whether spraying will do what is claimed for it or not. I am going to continue the treatment, and in fact am keeping the vines covered with the bluish stains as thoroughly as I saw them on the grounds of the New York Experiment Station at Geneva last year. Possibly if the weather should now become warm and dry, the period of danger from the attacks of this blight which is usually called "late blight," may once more pass over for a while.

The Striped Cucumber Beetle.—The following is from Mr. Purdy in Tribune Farmer: "W. E. Overend, of Massachusetts, writes that radish seed sown in Hubbard squash and melon hills will keep the striped beetles away. He writes he has given it a trial and it works to perfection. It is late to try it, this year, but I think if the seed is sown at once it will prove a preventive." This and similar other methods of preventing the attacks of cucumber beetles have been tried and recommended for many years. Some people plant radishes in or around the squash, melon or cucumber hill; others beans, others, buckwheat, and still others put their reliance in three or four onions planted in the hill. Possibly these plants may have some effect in hiding the young vines from sight or smell, and make it more unlikely for insects to find them. But nothing of this sort, so far as I have seen, is a sure protection. Bugs and beetles will come, in spite of all such applications. I keep my vine plants thoroughly covered with the Bordeaux mixture into which a little arsenical poison is mixed; and occasionally I give them a dusting of land plaster, or of tobacco dust, besides.

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Notes from a Carolina Garden.

Just at this time, when the spring shrubbery has long ceased to bloom and the crape myrtles have not begun, we have two shrubs in the South that are very beautiful. The double flowered pomegranates are now full of their gorgeous flowers like big scarlet roses, and one variety has rich salmon colored flowers with the petals tipped with white. Both are very ornamental, both on the bush and in vases. If trained to a single stem they grow to tree-like dimensions, but are prettier treated as bushes and branched from the ground.

The other shrub is the coral plant, Erythrina Crista Galli. This is a tender plant and the top does not survive the frost of winter. As soon as the frost has cut it the top is sawed off at the ground and a mound of sawdust piled over the roots to protect them in winter. From these stumps the top is annually renewed and now forms a big bush six feet high and as many in diameter, loaded with great racemes of crimson pea-shaped flowers.

The interest in the flower garden is now largely centred in the gladiolus. Groff's Hybrids are a great advance on the old Gandavensis. We started two years ago with 100 of them and now have fully 2,000. They are almost a weed in the garden, for every bulblet left in the ground in the fall grows in the spring, as our winters are not cold enough to hurt them, though we lift them in the fall as a matter of convenience in their propagation. We are cutting the flowers freely, but are saving the finest to make seed, and hope to have a fine lot of seedlings another season.

The first tomatoes came on the table on June 24th, rather later than usual. We have a number of varieties growing and will have something to say in regard to each. If the variety called Honor Bright could only be persuaded to ripen it would be valuable, for it is very smooth and solid and resists blight and rot better than any other. The catalogues say that it turns yellow and then a brilliant red. Here the whole plant, fruit and all, turned yellow and staid yellow until near frost, when some of the tomatoes got a slight red tinge, but never really ripened, and were hard and tough to the last. It is a beautiful tomato if it could be induced to ripen.

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Plenty of Rain in early June has put new life into the strawberry plants, and made a heavy crop of berries rise out of the ashes of a hopeless outlook. The rains also insure a larger crop of raspberries and blackberries of fine quality.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Good Shaped Trees.

In an issue of the P. F. some time ago, J. O. Shroyer, gave some excellent advice regarding the trimming of fruit trees, showing the benefit of trimming a little every year instead of letting the work go until the trees get large, as so many do. This advice conforms to what has been given so often in these columns; yet there is not nearly heed enough given to the matter by those whom it most concerns. Observation of orchards wherever one goes shows that a great many of their owners do not understand or appreciate the benefit of annual pruning. Yet this annual pruning is the only proper way. It can hardly be called a pruning, because when done yearly there is so little to cut away that it hardly calls for the name of pruning. Just as soon as a tree is planted what shaped tree is desired should be decided on, and pruning should follow in accordance with that decision. If a low branched tree be desired, the top must be shortened in that the side shoots may develop. When those side shoots have properly developed the top may be permitted to ascend. On the other hand should the tree seem lower branched than desired do not disturb the top; let it go on in its ascension, cutting away the lower branches gradually year by year, not all at once. Then, as the tree grows, look to it every year. When useless twigs or branches are to be cut away and dead branches, do it in the winter; but when bushiness is aimed at, summer pruning is better. To pinch off the end of a growing shoot when it is still growing causes it to burst the buds along the sides, and there are perhaps a half dozen twigs taking the place of the one nipped off. The cutting off of the tops in winter does not work in the same way. One, or perhaps two, of the side buds at the end bursts, but no more, and bushiness does not result. Trees treated to these annual light prunings become models of beauty. Peach trees seem especially benefited by it, becoming well clothed with fruiting twigs from bottom to top. And trees of all kind, fruiting ones or not, should be treated in the same way. Then, besides the beautiful trees there would be no limbs to saw off, leaving ugly scars to disfigure and destroy the trees.

Eucalyptus Trees.

Correspondents are still writing us about the eucalyptus tree, having read of its great value as a timber tree, they say. This subject has already been referred to in this department, but it will bear repeating that there is nothing whatever in the claim that it is of value as a timber tree here. The first the writer noticed of the claims put forth for it was in a Western paper, in which was an article praising it highly, and which was credited to the Saturday Evening Post. It made no particular impression at the time, as it seemed but one of many instances of newspaper writers tackling subjects of which they know nothing whatever. And it is true that on the subject of horticulture there is more ignorance displayed by newspaper reporters and writers than on any other subject they undertake to handle. In the case of these eucalyptus trees, for instance, ordinary intelligence on the part of a writer would demand that he know that these trees are natives of Australia. It would further demand that he know that in Australia there is no freezing, snow, nor anything of what we know as winter. Should he not also know that the climate of Australia being what it is, the eucalyptus would no more live out here than would a geranium or any other greenhouse plant such as we set outdoors in summer. Think, too, of the absurdity of the statement which appeared, viz, that the eucalyptus would thrive from "tropical swamps to above the snow line." It is evident that the writer of the article neither knew nor cared whether his statements were true or not; and an astonishing thing in connection with it all is, that the editor of the paper let the statements go as being correct. I do not think twenty-five letters would embrace the number received by me from those who had been misled by the newspaper article referred to. It hardly needs saying that only where it does not freeze can the eucalyptus be grown. A few species will stand slight freezings, while others succumb to the slightest of all. The value of the wood is unquestioned. It is hard and durable; and the tree is of rapid growth. Practically the trees are of no use in the United States, the only exceptions being the States or places where no frosts occur.

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Horticultural Queries.

Fire Blight. — I come for information concerning a disease that kills the pear trees. They will begin wilting at the top and will run down, causing the trunk to blacken and die. The trouble is always on the sunny side. L. O. BONHAM.
Burleson, Tex.

From your description I should say the trouble is caused by fire blight. This starts from the top and causes a blackening of the whole branch, but it is not confined to the sunny side. You can do nothing for it but cut off the blackened branches, cutting them off six inches or more lower than what is already dead. Burn the branches at once. Spraying with Bordeaux mixture several times through the season is to be recommended, though it will not always prevent fire blight. I note you are from Pennsylvania, and hope you are thriving in your new home.

Propagating Red Currants. — Please give directions for propagating the red currant. When should the slips be set, and how deep? Should they be of this season's growth, and if so, should the leaves be left on? Would same rule apply to the gooseberry? SUBSCRIBER.

Currant cuttings may be made towards the close of July, when the shoots of this season have pretty well matured. Make them about six to eight inches long, inserting them in soil in a partially shaded place to about half their length. They should be well rooted by fall, but had better be left where they are, well mulched until spring. Cut away about the half of each leaf. Cut in the same way, in October, and stored in damp earth in a cool cellar all winter and planted out in spring, is another very good way. Native gooseberries and their varieties should be treated in the same way, but they do not root as surely as currants. The English sorts are propagated by layering, almost entirely.

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Horticultural Notes.

Poisonous to Cattle.—The branches of the yew tree are reported quite poisonous to cattle and horses if eaten. Yew berries have a like reputation, but so far as concerns children I have seen them gather and eat them and no ill results follow.

Black Cap Raspberries are raised from their tips; laying down the canes and placing a stone on the ends is sufficient; roots forming where the canes press the ground. By topping the canes several times as they grow, several tops result instead of one, increasing plants rapidly.

White Azalea.—The lovely white flowered azalea common in florists' windows about easter, is hardy as far North as Philadelphia when in a sheltered position. There are large bushes at Chestnut Hill, Philadelphia, which have stood out unharmed the past ten years. It is the Azalea Indica Alba.

Scale Insects. — Common soap suds thrown over bushes infested with scale insects will kill the insects. Making a lather of soap in a vessel, taking it in the hand drawing a branch through the hand, that the suds may get on the under side of leaves, will be found a good way to operate on small bushes.

Japanese Lilies.—It is a common complaint that the lovely Japanese lilies and our own wild ones do not exist for long in cultivation. No doubt the trouble is caused by lack of proper situation. Our native ones are found in low places in woods, and when transplanted to similar ones they do very well. A deep, moist soil is what they want.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

The Hen Mite Problem.—It would be interesting to get a correct estimate of the number of millions of dollars damage done to the poultry industry in America every year by means of the little "insignificant" hen mite or red spider. Any method, no matter how expensive, of getting this blood-thirsty little animal under control would mean a large gain, a material increase in profits, to every poultry keeper who makes use of it. The mite saps the vitality of the majority of fowls in America to such an extent, that not only the egg yields are largely decreased, the growth of little chicks retarded, but fowls are often actually killed by mite attacks, most frequently perhaps on nest while sitting. In short, the fight against the mite is one of the foremost tasks every poultry owner has to accomplish. We have advised the free use of kerosene, sprayed all over the perches, the nests, the whole interior of the hen house. Kerosene, indeed, does wonders when thus used. Some expert recommends the use of boiling water, as cheaper and even more effective. This may be true. We can see no reason why boiling water, poured freely over the roosts, the floor, the nests, in short everywhere inside of the hen house, should not clear the pest out as quickly and thoroughly as anything yet recommended.

The Chick Feeding Problem.—There is no one and only way of feeding chicks. We have brought them up on soft feed alone, on whole wheat alone, on cake made of bran, corn meal, meat meal and milk, and on a great variety of feeds and mixtures, and with the same success. It does not depend so much on "just the right selection," as on many other things, whether the chicks do well or not. It may be all right to feed the little chicks with hard-boiled egg and bread crumbs for a few days; but it is not absolutely necessary. One of the safest things to give to little chicks, as a steady diet and varied occasionally by other things, table scraps, "dutch" cheese, stale bread softened in milk, etc., is whole wheat. Chicks learn to eat it when only a few days old, and they like it. It is a perfect food, especially when they have a chance to pick up some worms, bugs, grubs, etc., or are given an occasional mess of finely cut green bone and meat. Sometimes we can get stale bread from a nearby bakery very cheaply, and it can be used to good advantage, not only to feed young chicks, but old fowls also. A writer in Rural New Yorker tells that one of the bakers in his home town often has a surplus of stale bread, and sells him a sugar barrel full of loaves for a dollar, containing about forty 2-pound loaves. This he says, "is as cheap as ordinary grain food, if cooked, and is convenient. We formerly dried the bread in the warming oven of the kitchen range until crisp, and then reduced to crumb form with a rolling pin. This season we are cutting the loaves into thick slices, soaking them in a pail of water for a few minutes until soft, then squeeze out most of the water and throw into each pen one of the thick slices. In this form the chicks can easily eat it and get both exercise and water while doing so." Where sweet skimmilk can be had for soaking the bread, we would prefer it to softening with water. In any case, however, we would vary the diet by giving generous feeds of whole wheat, the latter one of the best things for general healthy nutrition, man or beast, ever created.

Within easy shipping distance of Niagara Falls, where the "shredded wheat biscuits" are made, we have in the shredded wheat waste one of the grandest feeding stuffs for chicks, and in fact, all kinds of poultry, that is yet put on the market. It is much cheaper even than the stale loaves bought by the writer before mentioned who pays $1 for 80 pounds of bread. This waste product represents just so much whole wheat, and is already baked, and in best possible shape for easy digestion and perfect nourishment. It is nothing more nor less than broken shredded wheat biscuits, crumbs, etc., appearing in shape somewhat like dessicated cocoanut, *i. e.,* in shreds, is perfectly clean and free from foreign substances, and can be bought at $20 per ton. We have fed this product to old fowls right along, of course moistened with milk or water, and this with most excellent results, both in health of fowls, growth of capons, and in the egg yield. We have invariably mixed a little meat meal with the shredded wheat waste, of course, and would always recommend that such addition be made.

Chick Cake.—The recipe for the chick cake which we used to feed to young chicks when we desired to secure rapid growth, and which in such cases we still make use of, calls for about equal parts of wheat bran, middlings, corn meal, oat meal, and meat meal, or in the absence of the latter, some fresh cut green bone and meat, or any substitute for it. A little saleratus is worked into this mixture, when it is stirred up with sour milk or buttermilk into a soft dough, and then baked in a hot oven until thoroughly done. This makes an excellent cake which chicks greatly relish, and on which they thrive like weeds. We usually moisten it with sweet skimmilk, or water when milk is not to be had, and feed it right along, often without change for some days. Whole wheat, however, should be given occasionally, as the change will be of benefit. This cake we have also found to agree first-rate with turkey chicks and seems to be a safe food for fowls generally.

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Pure Breeds.

The tendency among poultry keepers all over the country is in the direction of improving their stock by the introduction of pure bred fowls. On most farms we find at least a portion of the stock kept to consist of Leghorns, Plymouth Rocks, Wyandottes, Cochins, etc., or these frequently intermixed, or crossed with the common barnyard or "dunghill" fowl. Possibly these mongrels and crosses may give just as practical results as pure breeds, in eggs or in meat stock. The Leghorn cross may lay as many eggs and as large as the pure Leghorn. The Plymouth Rock cross may give as plump a body and as heavy a carcass as the pure Barred Plymouth Rock. Yet with the pure breed the owner knows exactly what he has, and what he can expect from his stock, while he does not know what kind of a bird his mongrel will make. In short, with the pure breed he builds on a sure and safe foundation. But there are two more points in favor of the pure breed—both important ones. A uniform flock of birds—all of one color, one type, one size and shape, is a striking and most attractive feature of the farm, a pleasure and joy forever. It pleases the owner; it pleases the visitor and the one who just passes by. It elicits remarks of admiration, and causes longing in the visitor's breast for the possession of the same breed. The other advantage is the sale of eggs for hatching at a good price.

We have pure bred Langshans and no others. We get just as many eggs as we could from any other common breed. We get a larger proportion of eggs during the winter when eggs are high. We get a good lot in the spring during the hatching season. And here is where we secure a great advantage. Ordinary eggs at this time are usually low, in fact down to the lowest point during the whole year. Yet we have never found any trouble to sell all our surplus eggs of good shape at this time for from 25 to 50 cents a dozen or sitting of 13 to people in the vicinity who appreciate a good thing when they see it. The attractiveness of the uniform flock, especially of such stately birds as the Langshan, never fails to act as a good advertisement for the sale of "pure bred eggs for hatching." We take pains to keep up the standard of the breed. We occasionally pay a good price for a well bred male bird which we secure for the purpose of avoiding inbreeding, and we can afford to do it. When we, in consequence of our guarantee of purity, get 25 to 35 cents more per dozen for our surplus eggs than we would otherwise, the outlay for a cockerel or two is soon repaid many times over. And we have the satisfaction of knowing that we have as good fowls as there are in the country, and a flock which is a pleasure to look at, and of which we can be proud. In short, why keep mongrels, when the pure breed will pay us so much better? And to this we would add the advice to keep one breed only, and bring this to the highest standard of excellence, in which case you will get an extra premium of another 50 cents or more per sitting of eggs right along.

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Pointed Paragraphs.

Whole Grain or ground stuff for chickens? Wet or dry? Good results are possible in either case. The golden middle course is probably the best and safest.

Garden Wastes, such as old lettuce plants, cabbage and celery plants, beet thinnings and leaves, cresses, green pea vines after the pods have been gathered, weeds of all kinds, especially the irrepressible purslane, and other green things, are just the thing for poultry kept in yards during the summer. Fowls will not do so well without plenty of green stuff.

Sharp Grit or Anything that could serve the same purpose, is a rather scarce article on our own place, as on many others. Poultry must have it to maintain their digestion unimpaired. Don't expect your fowls to do well unless grit is furnished them in some way. We buy it from our supply dealer ready made, and keep the grit box well supplied at all times. It pays.

Hog Bristles, such as are found lying around where pigs have been killed and dressed, are said to be a serious danger to the health and even lives of fowls. When hens have been deprived for a while of animal food, they will pick up the bristles, with the particles of skin, etc., adhering to them, quite readily. The bristles themselves, however, cannot be digested by them. Frequently they accumulate in the crop, and result in the affliction known as "crop bound." Or they may result in disorders of the digestive organs and intestines. In most cases this leads to the death of the fowl. Frequently birds in a flock that had access to these hog bristles, are taken with a lingering and finally fatal sickness and the owner cannot imagine, and will never learn what was the real cause of the trouble. The moral is obvious. Carefully gather and bury or burn all bristles whenever a pig is killed or dressed.

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PROF. W. F. MASSEY, Editor.

Philadelphia, July 11, 1903

Preparing Strawberry Plants for Fall.

Now is the time to do this. Get a lot of 3-inch flower pots, and prepare a rich compost for them. Go into the strawberry patch and find the young runners that have made little white roots an inch or so long. Take these to a convenient table and pot them in the 3-inch pots. Now in an unused cold frame spread a bed of coal ashes and on these set the pots closely together. Water well and shade with a screen of building laths nailed an inch apart and then see that the plants never suffer for water. You can attend to a large number in this way, and in the fall you will have a lot of plants that can be knocked out of the pots and set so as to get strong enough to make a full crop the next spring. The books will tell you a lot about growing pot plants of strawberries by crawling about the patch and buying pots and putting the runners on them to root. But all this is a waste of time and labor, and you can have just as good potted plants by taking up the young runners as suggested and potting them in a convenient place. Growers in the trade who offer the potted plants by the thousand, do not crawl over the ground and sink the pots in the soil. They leave that advice for those who do not know better.

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Alfalfa in Tennessee.

A Tennessee correspondent tells of a neighbor who has some of the poorest run-down land in the neighborhood, who sowed a piece of land in alfalfa. He got only a little patch here and there. The next year he planted the land in corn and plowed around the living patches of alfalfa, leaving them to grow in the corn field. The next season he sowed the land in alfalfa and now has a fine stand four years old. The probability seems to be that the patches left in the first sowing did get the land infected with the microbes that live on the alfalfa roots, and hence the success of the second sowing. When one gets a patch, however small, where the nodules can be seen on the roots he will have no further difficulty if he uses the soil from that piece to scatter over a new sowing and thus infect the soil. Legumes often fail the first time from the lack of the microbes. In Louisiana a friend wrote that the first time he sowed crimson clover he failed except in spots. The next fall he sowed the same land and had a fine stand. The hairy vetch often fails at first from the same cause, but is easily infected with soil from an old garden where English peas have been grown, as they both have the same microbe.

◆

Hay Tedders.

Ours is an immense country. We have often heard this, and this season are more than ever convinced of its immensity and variety. While the East has been struggling with drought the Central West has been deluged and flooded with rain, and the hints to the drought sufferers are wasted on those who have been trying to make hay with no sunshine and constant rains. The making of hay in catching weather requires not only quick work but the best of implements. In such a season as our Western friends have been having the tedder proves of immense value to the hay maker. In fact, anywhere the tedder will pay its way in the securing of the hay crop, and whoever uses it one season will thereafter be sure to keep one. It may not have been needed in the droughty East this spring, but there are times when even there the tedder will enable a farmer to save a crop of hay from rain. It is becoming annually more evident that in the farming of the future the man who takes advantage of every mechanical contrivance to forward his work will be the most successful. Mechanical engineering and agriculture are becoming more and more associated, and the knowledge of the construction and use of machinery more and more essential to the education of the farmer. One day in the late summer we had a fine growth of red top on a piece of low land. The sun was hot, but the weather man said that a thunder storm was at hand. We put the mowers in early and right after them the tedder, and cut until noon, and that hay was in the stack before night, when the rains descended and the floods came, but those stacks were all right and the hay was fine. Without the tedder the hay would have lain out all night in the rain and been flooded with muddy water and unfit for hay.

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The Silo in Summer. Early Hay.

We have heretofore called the attention of our readers to the value of the silo as a resource against drought in summer. During the early part of the present summer and late spring the entire northeastern part of the country was afflicted with a severe drought, and in many places there were doubtless those who were thankful that they had some silage left over from the winter feeding. In making a silo it is always the part of wisdom to make it fully as large as there will be a possible need, for if it is not emptied during the winter what is left will keep very well for the summer and may be the means for tiding over the very conditions that have afflicted such a large portion of the dairy country of the United States this season. The surface of the silage may mould a little, but take that off and it will be found that the rest is all good and will easily take the place of the grass that is burnt up. Now that the hay crop over the droughty section is certainly short those who have stock to feed should turn to the silo, and if you have not yet built one you will be wise to do so at once if it takes the entire corn crop to fill it, for where there are cows to feed there is no better use that can be made of a corn crop.

Now that the rains have come in the Middle and Eastern States, the growing of forage crops to take place of the short grass crop becomes a matter of importance. Among these the crimson clover and the hairy vetch come in as about the earliest hay crops that can be sown. The clover should be sown alone or with a brief crop like buckwheat, and can often be made successful by sowing in the corn. In Pennsylvania and Maryland July is the time for sowing this clover, and coming southward, later, until in the far South October and even November will be the times.

The vetch needs some support to make it easy to harvest, and we have found nothing better for this purpose than wheat. We are now feeding a splendid crop of wheat and vetch hay made just as the wheat was in the milk, and the way the horses clean it up is gratifying. We tried drilling the vetch seed mixed with the wheat and found that the vetch being heavier drilled out more rapidly and thus the sowing was not as uniform as it should be. It will be better to drill the vetch first or sow it broadcast and then drill the wheat. We would sow one bushel of wheat and 30 pounds of vetch per acre. If vetch has not been grown before it will be well to get some soil from an old garden where English peas have been grown and scatter about 100 pounds per acre on the land seeded to vetch. These two legumes will give the earliest hay crop in the spring that can be grown. The vetch and wheat should be sown in September or October.

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Theory and Practice.

A very observant friend, who writes us long and interesting letters at times, recently said that he had been urging a certain farm practice on a friend who had a farm, though his chief occupation was that of an expert accountant. He told him that the P. F. advised a certain course, and the friend replied, "Don't you know, Joe, that those fellows who write for the farm papers are mere theorists, and do not know practically what they write about?" The fact is that the most complete theorists in agriculture are the men who know the least about it. Here was a man who is an expert accountant, has spent years of study to become such. He would resent the imputation that he is a mere theorist in bookkeeping, for he knows that he knows his business. But this same man, when he gets somewhat interested in agriculture imagines that the men who have spent long lives in the practice of the art, and who are giving the results of their life experience in the paper, are not experts in their profession, but theorists who can teach him nothing about the profession at which he is but a beginner. The most complete theorists in agriculture are men of this class, who jump to the conclusion that a year or so in trying to cultivate a farm through somebody's help, has made them expert farmers and put them in a position to criticise those whose life has been devoted to the study of soil culture and improvement. Every year such a man spends in the cultivation of a farm, if he is a thoughtful man, he realizes more and more how little he did know when he thought he had learned it all. Another class of theorists is composed of men who pride themselves on being what they call "practical," and who look upon all study of books and papers in connection with farming as useless to them, for they know all about farming from practical experience. Men of this class never get any further. They are the men who regard the moon more than the sun and soil, and who consider farming a matter of chance rather than of intelligent study. They, too, call the professors and students of agriculture "theorists," while they themselves have the wildest and most groundless theories about everything on the farm. They have gotten some practical experience in working the soil, but they have failed to add the understanding that education gives a man in any profession. The real practical farmers are the men who have studied everything in regard to farming, and have adopted in their practice the methods best suited to their condition, and yet who realize how much there is yet to be learned by the wisest. These are the men who believe in farming, and who crowd the Institutes and everywhere where discussion of farm methods is carried on. They realize that none of us know it all and never will know all there is to be learned about the soil and its culture. At the great assemblage of farmers in Tennessee lately we felt like asking, "What went ye out for to see?" That thousand and more intelligent men knew that they did not know all about farming, and they knew the lecturers did not. But they knew that the comparison of experiences from various parts of the country, and the study of what the Experiment Station at Knoxville is doing, could not fail to help them. Such men are real practical farmers. May their number never grow less.

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The Cream of the Bulletins.

North Carolina College of Agriculture and Mechanic Arts, Agricultural Experiment Station, Raleigh, N. C. Bulletin 183. Insect and Fungus Enemies of the Apple, Pear and Quince, with Methods of Treatment. By F. L. Stevens and Franklin Sherman.

This is a companion bulletin to the bulletins on the cultivation of the apple and other fruits recently issued by the North Carolina Experiment Station. In treating of the insect enemies of the apple, Mr. Sherman takes up the ones infesting the roots, those attacking the trunk and branches, those on the leaves and tender shoots and those that attack the fruit. The one insect that mainly attacks the root is the wooly aphis, small insects covered with white, wooly substance that live on the roots of the apple and cause knotty, gall-like swellings. Nurserymen should avoid shipping trees that have these on the roots, as they work harm to the trade. The best that can be done is to draw away the earth at the root and to cover them with tobacco dust. We would add that if nurserymen were to manure their apple tree land heavily with tobacco stems there would be little, if any, trouble with the root aphis. Tobacco is the sovereign remedy for all forms of plant lice. For the round-headed apple tree borer it is advised to cut them out with a knife every winter. The beetle can be kept out by surrounding the lower part of the stem with wire mosquito netting tied closely at the top. This also protects against rabbits and mice. Or keep the base of the trees smeared with tar during the egg-laying season, June to August. The flat headed borer is cut out in the same way in winter. The bark beetle usually attacks neglected trees and speedily kills them. Badly infested trees should be burned, and well cultivated and pruned trees seldom suffer. The scurfy scale is found on the apple and other trees, and can be destroyed by spraying with 25 per cent. kerosene emulsion simply enough to dampen the bark. The oyster shell plant louse or scale is very common in the mountains of North Carolina. Kerosene emulsion is advised for these, but in our experience there is nothing equal to a good coat of whitewash on the trees for any scale. The bulletin also advises kerosene emulsion for the San Jose scale. The lime, sulphur and salt mixture applied hot in winter is far better and safer than kerosene in any form. For the tent caterpillar the bulletin very properly advises instead of burning the nests after they are made, to spray the trees with Paris green and prevent the building of the nests. The green apple aphis is found plentifully all over the State, and the advice is given to use kerosene emulsion for these. The emulsion will be better if made with a strong decoction of tobacco in place of pure water. One of the chief reasons for spraying orchards is the destruction of the codling moth. For the late broods pieces of burlap or old bags should be placed around the trunk of the tree near the lowest limbs, and as the worms will take refuge under the band they may be collected there. This is only to be used as an additional remedy with spraying. Prof. Stevens takes up the fungus disease of these trees; the most general remedy advised is the regular spraying with Bordeaux mixture, which he advises to be made with 5 pounds of copper sulphate and 5 pounds of lime in 50 gallons of water, adding one-fifth of a pound of Paris green at second spraying for the codling moth. The only remedy advised for the fire blight is the well known one of cutting out the attacked twigs into sound wood, and sterilizing the knife by dipping it in carbolic acid at every cut. The leaf rust of the apple is controlled by destroying all cedar trees near the orchard, as these carry the spores over winter in the so-called cedar apples. Very useful cuts are given showing the diseased fruit and twigs and microscopic enlargements of the various disease germs. The bulletin will be of great practical use to the orchardists of the State if its directions are observed.

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"The P. F. is an all right, straight up and down, square and sound paper. Success to it and all its readers."—D. H. Pershing, Stauffer, Pa.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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CONTENTS

AGRICULTURAL. — How to Bring up Run Down Clayey Land.—Health Hints.—How Many Meals a Day? 17
Getting at the Reasons Why.—Alfalfa. 18
QUERIES.—Rye for Winter Pasture.—Buckwheat.—Alfalfa in Arkansas.—Roof for Hay Stack.—Draining and Other Matters in Tenn.—Crimson Clover and Pea Hay in S. C. 18
Orchard Grass.—Clover, Sorrel and Lime.—Tomato Rot and Boll Worms.—Improving Virginia Land.—Plant for Name.—Apple Pomace for Feed.—Floats for Alfalfa. 19
LIVE STOCK AND DAIRY.—Sorghum Fodder.—Helping Out the Cow Pastures. 20
VETERINARY. — Paralysis. — Salivation. — Paralysis. — Ropy Milk.—Sick Pigs.—Nervous Mare.—Cow Pox.—Curb.—Scrotal Hernia. 21
GARDEN.—A Three-Quarter Acre Lettuce House. — Talks on Timely Topics.—Potato Blight and Rot.—The Striped Cucumber Beetle.—Notes from a Carolina Garden. 22
HORTICULTURAL. — Good Shaped Trees.—Eucalyptus Trees. 22
Horticultural Queries.—Fire Blight.—Propagating Red Currants.—Horticultural Notes. 23
POULTRY.—Seasonable Suggestions.—The Hen Mite Problem.—The Chick Feeding Problem. — Chick Cake.—Pure Breeds.—Pointed Paragraphs. 23
EDITORIAL. — Preparing Strawberry Plants for Fall.—Alfalfa in Tennessee.—Hay Tedders.—The Silo in Summer. Early Hay.—Theory and Practice. 24
CREAM OF THE BULLETINS. 24
COMMERCIAL. 25
HOME CIRCLE.—Prize Offer.—All in a Lifetime, Part 1.—A Poultry Talk.—Pillows.—In the Kitchen. 26
Accidents. — Our Book Table.—H. C. I. S.—Correspondence. 27
OUR EXPERIENCE POOL.—Topic No. 580.—If a Man Has a Farm Paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has? 28
SHORT CUTS BY P. F. SUBS.—Cleaning Wall Paper.—A Most Effectual Way.—Washing Recipe.—To Make a Wire Rope Pulley.—To Make Tracing Paper.—To Make Tough Meat Tender. — Buying Shoes. — Handy Box.—For Wash Day.—A Cheap Corn Knife.—Tooth Powder.—Convenient Hog Trough.—How to Can Fruit. 29
MISTAKES, FAILURES AND SUCCESSES.—Summer Pigs.—To Label Milk Pans or Crocks.—To Remove Stains. — The Incubator Doors.—Baffling the Striped Bug.—Setting Good Sized Trees.—Run for Small Chicks. — Times Have Changed.—Thinning Corn. — Cleaning Baby's Cloak.—Hedge on Thin Land. 30
POSTAL CARD CORRESPONDENCE. 32

Those 4-Name Clubs.

Last week we made a new proposition to our friends to the effect that we would send the P. F. for the remainder of the year for 25 cents in clubs of four, one dollar paying for 4 of these trial subscriptions. For each such club we will give the club raiser his or her choice of any of these four books: "The Household Guide," "Farm Helps," "Garden Book No. 1," "Garden Book No. 2." For a club of eight trial subscriptions any two of these books; for a club of twelve any three of the books; and for a club of sixteen all four of the books. We hope all our friends will take hold of this proposition. We ought to have several of these clubs from every post office to which the P. F. now goes, and thus put our paper into thousands of homes where it is now a stranger. The books which we offer as premiums for these 4-name clubs have been selected with special reference for their value to the farmer and his family. All four ought to be in every P. F. family, and here is an opportunity to get them absolutely free.

COMMERCIAL

Philadelphia, July 4, 1903.

WHEAT.—		
No. 2, red, spot	80½@	81
No. 2, Penna. and Del.	81½@	82
No. 2, red, July	79½	
CORN.—		
No. 2, spot and July	55½@	56
No. 2, yellow, track	58 @	58½
No. 3	51½@	52
OATS.—		
No. 2, natural	47	
No. 2, white	47½	
LIVE POULTRY.—		
Fowls, hens, per lb.	13½@	14
Roosters, per lb.	10	
Spring chickens—		
2 to 2½ lbs., per lb.	20 @	22
1½ to 1¾ lbs., per lb.	16 @	18
Smaller sizes, per lb.	14 @	15
Spring ducks, per lb.	14 @	15
Old ducks, per lb.	11 @	12
DRESSED POULTRY.—		
Fresh killed fowls, choice	14½	
do do do average	13 @	13½
do do broilers, nearby	23 @	25
do do do Western	20 @	22
do do average	15 @	18
BUTTER.—		
Western creamery, extra	20½@	21
Western creamery, firsts	20	
Ladle packed	15 @	17
Prints, nearby, extras	21 @	22
Prints, Western	18 @	20
EGGS.—		
QUOTATIONS AT MARK.		
Nearby fresh, ret'bl crates	16½	
Western, choice, free case	16	
So. Western do do	16	
So. choice, do do	16	
Recrated, 1@2c. above wholesale prices.		
CHEESE.—		
N. Y., f. c. small—		
New, choice	11	
Fair to good	10¼@	10¾
State, part skims, prime	7 @	9
GREEN FRUITS.—		
Raspberries, black, pt.	3 @	4
Raspberries, red, pt.	4 @	6
Gooseberries, per qt.	6 @	8
Blackberries, per qt.	5 @	8
Currants, N. Y., qt.	6 @	9
Peaches, Ga., carrier	1.00 @	2.50
Plums, Ga., 6-bas. carrier	1.75 @	2.50
Watermelons, Fla., car	150.00 @	300.00
Cantelopes, per crate	1.00 @	2.25
Pineapples, Fla., crate	1.90 @	2.75
APPLES.—		
Del. & Md., new, ½-bbl. bas.	75 @	1.00
POTATOES.—		
White, So. Rose, pr., bbl.	3.50 @	3.75
do do do md., bbl.	2.50 @	3.00
do do Chili, No. 1, bbl.	3.25 @	3.50
do Jersey, pr., bas.	70 @	75
Red So. Chili, No. 1	3.00 @	3.25
do do do md., per bbl.	2.00 @	2.50
Sweets, Jersey, per basket	40 @	50
VEGETABLES.—		
Beans, Nor., per ½-bbl. bas.	1.50 @	1.75
Beans, wax, ½-bbl. bas.	1.50 @	1.75
Beets, So., per 100 bun.	2.00 @	3.00
Cabbage, So., bbl. crate	1.50 @	2.00
Cucumbers, So., bas.	1.00 @	1.75
Eggplants, Fla., box	1.50 @	2.00
Onions, N. O., bag	1.00 @	1.10
Squash, So., per 1-3-bbl. bas.	50 @	75
Tomatoes, Fla., crate	1.00 @	1.50
do Miss., carrier	75 @	80
do Texas, box	75 @	80
BEANS AND PEAS.—		
Beans, marrows, H. P., bu.	2.60 @	2.65
Pea beans, H. P., 1902, bu.	2.35	
Red kidney, 1902, bu.	2.90 @	3.00
Green peas, per bu.	1.60	
Scotch peas, per bu.	1.65	
COTTON.—		
Cotton, per cwt.	13.00	
FEED.—		
Bran, bulk, winter, per ton	19.50 @	20.00
Bran, sacked, spring	19.25 @	19.75
HAY AND STRAW.—		
Timothy, N. Pa., No. 1, Fg.	22.00	
do Western	21.50 @	22.00
Timothy, mixed Western	15.50 @	18.50
Straw, straight rye	18.50 @	20.00
Oat	10.00 @	11.00
Wheat	10.50 @	12.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2034 Market Street.

Beef cattle steady.		
Extra steers	5¼@	5½
Good steers	5 @	5¼
Medium steers	4¾@	4⅞
Common steers	4¼@	4⅝
CALVES.—		
Veal calves lower.		
Extra calves	7¼@	7½
Fair to good	6 @	7
Poor and common	5 @	6
Grassers	3 @	4
HOGS.—		
Hogs lower.		
Fat hogs, Pa., Del.	6½@	7¼
Fat hogs, Western	8 @	8½
SHEEP.—		
Sheep and lambs lower.		
Sheep, extra	4½@	4¾
Sheep, good	4¼@	4½
Sheep, medium	3¼@	3¾
Sheep, common	2 @	3
Lambs, spring	5 @	7¼

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The New York Market Review.

The abnormal market for cotton affects grain prices more or less and causes uneasiness among bulls and bears. After the most phenomenal market for decades, in which cotton reached nearly 14c. per lb., there was a sharp reaction, and it looked as if prices would decline rapidly. How much of speculation and cornering of the market there is in the present movement, and how much of actual favorable conditions for extraordinary high prices, are questions which outsiders cannot learn; but it is very evident that reserves of cash cotton are small, and no additions can be had to them until the new crop comes in. Yet with spot cotton at 13c. and over a pound, few spinners care to use any except old stock cotton for fear that cotton cloth made with such expensive raw material will have to be sold at a loss.

The condition of cotton affects wheat and corn because of the speculative tendency such erratic courses of prices always causes. Of course this is further intensified by crop conditions and the heavy rains which have prevailed in many parts of the country. Europe is anxious about the American grain crop, and prices have been raised abroad to reflect the general feeling. The bearish feeling in some quarters tends to keep prices for wheat from rushing upward beyond a point where they are immediately taken for local and foreign speculation. Exports of corn have been good, but in the last two days they have fallen off a little. The strength of corn is not dependent upon wheat. The crop shows signs of backwardness which is causing uneasiness. The harvesting of the crop of oats has progressed as far North as Missouri, and the condition proves favorable, and prices are quiet and easy. Rye is also steady, but the season for barley is about over and quotations are dull. The volume of trade in butter declined the past week, while receipts showed an actual increase, causing a surplus of goods that made trouble. However at the decline speculators immediately came to the support and removed large consignments to the storage houses. This checked decline and made prices steady from 20½c. per lb. for extra creamery down to 14c. for Western cheap goods. There were nearly 40,000 boxes of cheese received the past week, and less than 14,000 taken for export. There has been a general shading of prices, and especially in view of Canadian prices being a trifle lower than here. At the lower quotations of 10½c. per lb. down, the demand is good, and some buyers are taking goods for storage. Live poultry accumulated during the recent rainy weather, and although the demand is moderately good the surplus failed to disappear. There is, consequently, a very weak and unsettled tone to the market, and live chickens, fowls and ducks and geese are easy. Fresh killed fowls have also been very dull and unsettled; but fancy nearby spring chickens are quite steady, owing to the out of town demand from summer hotels, a trade which depends chiefly upon New York during the hot weather. This trade is apt to increase as hot weather stays with us, and the demand can be depended upon until the end of August. Tame squabs and fresh killed fancy spring ducks are steady and wanted, with supplies moderate. In frozen poultry there is a good demand, but most of it has passed into the hands of speculators and stock is greatly reduced. Hot weather is affecting the egg receipts, but fortunately supplies have come forward rather slowly, and tone is not as weak as anticipated. It is hard at this season of the year to get eggs from distant points here without losing quality. Western eggs consequently cut less and less a factor in the local situation.

The market for domestic dried beans is ruling stronger, and there is some export interest manifested. The supplies are large, and exports very moderate yet, but increasing. Receipts of hay have increased lately, and consumption is lessening, but the phenomenal high prices have not dropped yet. Good serviceable to fancy hay rules from $1 to $1.25 per 100 lbs. Long rye straw continues a strong seller at 90c. to $1, which are unusual prices at this season. Very heavy offerings of new potatoes have caused prices to decline a little, and scarcely any old potatoes are left in the market. G. E. W.

◆

New York, July 4, 1903.

WHEAT.—		
No. 2, red	85⅜	
No. 1, No. Duluth	92⅝	
CORN.—		
No. 2	57½	
No. 2, f. o. b.	58¼	
No. 2, white, f. o. b.	59	
No. 2, yellow, f. o. b.	59	
OATS.—		
Standard white	47¼	
No. 2, white	47½	
No. 2, white clipped	47¾	
No. 2, mixed	43¾	
No. 2, mixed clipped	44½	
No. 3, mixed	43¼	
No. 3, white clipped	47¼	
No. 3, white	47	
HAY AND STRAW.—		
Timothy, large bales, cwt.	1.20 @	1.30
No. 1	1.15 @	1.20
No. 2	1.00 @	1.10
Clover, per cwt.	55 @	90
Straw, long rye, per cwt.	90 @	1.00
BUTTER.—		
Creamery—		
do firsts to extras	19 @	20½
do ordinary	16¼@	18½
State dairy, fresh, tubs—		
Firsts to extras	18½@	20
Ordinary	15½@	18
West. Imitation Creamery—		
Finest	18	
Ordinary	16½@	17½
CHEESE.—		
State, f. c., small, choice	10¼	
Fair to prime	8½@	10¼
Large colored, choice	10⅜	
Large white, choice	10⅜	
State, light skims—		
Choice	8½	
Part skims, prime	6½@	7
Full skims	2	
EGGS.—		
QUOTATIONS AT MARK.		
State, Pa., and nearby—		
Fancy selected white	19 @	19½
Fresh gathered, extras	18½	
Fresh gath'd, 2nds to 1sts	15½@	17
Western—		
Fresh gathered, extras	18 @	18½
Fresh gathered, firsts	16 @	17
LIVE POULTRY.—		
Spring chickens, nearby, lb.	15	
Western, per lb.	15	
Southern, per lb.	14	
Fowls, per lb.	12	
Roosters, per lb.	7½	
Turkeys, per lb.	12	
Ducks, average, pair	60 @	90
Geese, average, per pair	90 @	1.25
Live pigeons, old, pair	25	
Live pigeons, young, pair	20	
DRESSED POULTRY.—		
FRESH KILLED—ICED.		
Turkeys—		
Average best, per lb.	13 @	15
Old	14 @	15
Broilers—		
Phila., 2 lbs. av. to pr., lb.	40 @	45
Phila., 3 to 4 lbs. pair, lb.	26 @	27
State & Penna., 3 to 4 lbs. to pair, per lb.	23 @	25
Balt., d. p., 2 lbs., per lb.	20 @	22
Western, d. p., per lb.	20 @	22
do scalded	19 @	20
Fowls, West., scald., sm., fcy	13	
Dry picked, small, fancy	13½	
Southern & So. West., d.p.	13 @	13½
Scalded, per lb.	12½@	13
Spring ducks—		
Long Island, per lb.	18	
Eastern, per lb.	18	
Jersey, Pa. & Va., per lb.	17 @	17½
Squabs—		
Prime, large, white, doz.	2.50 @	2.75
Mixed, per doz.	2.25	
FROZEN.		
Turkeys—		
Young hens & toms, No. 1	17 @	19
Broilers, d. p., No. 1	19 @	21
Broilers, scalded, No. 1	16 @	18
Capons, choice, heavy	21 @	22
Medium size	19 @	20
APPLES AND PEARS.—		
Apples—		
Russet, per bbl.	2.75	
Baldwin, per bbl	2.25 @	2.75
Ben Davis, per bbl.	2.50 @	3.00
Pears, LeConte, per bbl.	4.00 @	5.00
GREEN FRUITS.—		
Pineapples—		
Indian River, 24s	2.60 @	2.75
Indian River, 30s	2.50 @	2.65
Indian River, 36s	2.00 @	2.25
Muskmelons—		
Fla., crate, large, selected	2.00 @	2.50
California, crate	8.00 @	10.00
Watermelons, per 100	17.00 @	30.00
do per car	200.00 @	325.00
Peaches, Fla., carrier	1.00 @	1.75
Ga., average, carrier	1.00 @	1.75
Carmans, carrier	1.75 @	2.00
Elbertas, per carrier	2.00 @	2.25
Belles, carrier	2.25 @	2.50
Strawberries—		
Atlantics, per qt.	18 @	22
Oswego county, per qt.	10 @	20
Jersey, per qt.	8 @	11
Up-river, per qt.	8 @	12
Early Harvest, per qt.	5 @	7
Blackberries, N. J., per qt.	8 @	9
Maryland & Delaware	5 @	7
Huckleberries, large blue, qt.	13 @	15
Gooseberries, per qt.	6	
Raspberries, Del. & Md., pint	5½@	7
Jersey, per pint	6½@	7½
Black caps, per pint	4 @	4½
Currants, per qt.	6 @	8
Cherries, white, per basket	35 @	50
Black, per basket	65 @	75
Sour, per basket	40 @	50
Small stock, per lb.	3 @	4
VEGETABLES.—		
Asparagus—		
Prime, per doz.	2.50 @	3.50
Culls, per doz.	1.50 @	2.00
Beets, per 100	2.00 @	3.50
Carrots, old, per bbl.	2.50 @	3.00
Cabbage—		
Norfolk and So., bbl. crate	1.25 @	1.50
Baltimore, per bbl.	1.25 @	1.50
Long Island, per bbl.	1.25 @	1.50
Flat Dutch, crate	1.62 @	1.75
Cauliflower, L. I., bbl.	2.00 @	4.00
Cucumbers—		
Florida, bas. or crate	1.00 @	1.25
Char. & Savannah, bas.	1.00 @	1.50
Norfolk, basket	1.50 @	2.00
Eggplants, per box	2.00 @	2.50
Green corn, basket or crate	2.50 @	3.00
Lima beans, Fla., crate	3.00 @	5.00
Lettuce, nearby, per bbl.	1.25 @	1.75
Peas, L. I. and N. J., bag	1.25 @	1.75
Radishes, per 100	50 @	1.00
Rhubarb, 100 bunches	1.00 @	1.50
String beans—		
Wax, 1-3-bbl. bas.	50 @	1.00
Green, 1-3 bbl. bas.	75 @	1.25
Nearby, ½-bbl. bas.	1.50 @	1.75
Turnips, white, 100 bunches	1.50 @	2.00
Green peppers, Fla., crate	1.75 @	2.00
Onions—		
New Orleans	1.25 @	1.40
Small stock, bags	90 @	1.00
Southern, basket	75 @	1.00
Tomatoes—		
Southern, carrier	1.25 @	1.75
Crystal Springs, trays	75 @	90
POTATOES.—		
So., Rose, prime, per bbl.	2.75 @	3.50
White Chilis, prime, bbl.	2.50 @	3.25
Red Chilis, prime, bbl.	2.50 @	3.00
Seconds, per bbl.	1.50 @	2.00
Culls, bbl.	1.00 @	1.25
Old Domestic—		
In bulk, per 180 lbs.	3.00 @	3.25
Per 168-lb sacks	3.00	
Sweets, East Shore, bbl.	1.00 @	2.00
Jersey, per basket	1.00 @	1.25

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@33
X	28@30
Medium	30@32
Quarter blood	28@30
Common	26@28
UNWASHED (light and bright.)	
Fine	20@23
Medium	23@24
Quarter blood	23@24
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@18
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	33@35
Washed medium	32@33
Washed low	30@32
Washed coarse	28@30
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	21@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest—something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

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"It isn't the thing you do,
It's the thing you left undone
Which gives you a bit of a heartache
At the setting of the sun.
The tender word forgotten,
The letter you did not write,
The flower you might have sent,
Are your haunting ghosts tonight."

◆

All in a Lifetime.—Part 1.

VELMA CALDWELL MELVILLE.

"Now, see here, Patty Pearl, if I were you I wouldn't go meachen round 'bout the likes of Jeff Greely. If ye can't git on peac'ble now while he's waiten on ye, ye can believe it same as if it was down in black 'nd white, ye couldn't git on after marriage. Mebby it's a providence that ye've quarreled. Anyhow it's all in a lifetime; ye won't remember there ever was such a fellar as Jeff twenty years from now," and with this practical talk Aunt Ruth dismissed the subject from her mind. For the life of her she could not understand why her niece should grow pale and thin and spiritless simply because a little coldness had arisen between her and her lover. There were a dozen other young men in the neighborhood quite as likely and all would-be suitors of the pretty Patty Pearl.

Now she had married Abner Westover because their fathers' farms had lain adjoining and because it seemed for the best all around. Of course she loved Abner, all wives are supposed to love their husbands, and Mrs. Westover was orthodox in all her relations in life; but she was once known to admit that if Frank Greely's (Jeff's father) farm had lain as "convenient" she rather thought she would have married him. She liked the color of his eyes better than she did Abner's. In fact, the Westovers "want noted for their beauty," she was always free to allow.

She had no children, but her ample motherly heart and arms had taken in several at different times. There was now, however, in the home nest, only Martha Pearl Winthrop, her only sister's only child. Among her mates the girl would have been simply Pearl but for the persistency with which her aunt denominated her Patty Pearl. It was too "taking, round and rollicking," the girls said, to be dropped, so Patty Pearl she was, despite herself, to everybody. No, not everybody, for Jeff never called her that. To him she was sometimes Patty and sometimes Pearl, but never both at once.

Patty was easily the prettiest girl in the Westover neighborhood, with her large, black eyes, clear skin and golden red hair. She had only lived there four years when our story opens, and there yet clung to her many of the quaint and yet polished ways which she acquired somewhere else in the world. From the first she and Jeff Greely had been good friends, but only for a few months back had she worn his ring, or blushed like a pretty culprit whenever his name was mentioned. And now, as Aunt Ruth bluntly expressed it, they had quarreled, though the word went to Patty's heart like a dagger. If only he would come around and show a little remorse she was perfectly willing to meet him half way; but he had not come and it was a full month now.

Alone in her room Patty sat down on the carpet, laid her head on a cushion, clinched her small ringless hands and groaned aloud: "All in a lifetime, all in a lifetime!"

A lifetime, how long that might be. Why, she was barely nineteen now and might have to live to be ninety—her grandmother on her father's side did, and the Martha of her name was for her. And then she made a slight arithmetical calculation. Seventy-one years of this lonely, desperate—what word could describe the feeling! She could never endure it. But just then Aunt Ruth announced from the foot of the stairs that "Mrs. Waddle and the girls" had come visiting. With a stifled sob Patty sprang to her feet and rushed to the glass. Would they know she had been crying? Maybe she hadn't, she could not remember, and her handkerchief did not seem wet. No, her face showed no tear stains, but was pale and haggard—the "picture of woe," as she told herself. Quickly she bathed it, rubbing her cheeks until they glowed, combed her hair in the most becoming style, put on a blue muslin, with pink sprays, and a bow of pink in her hair.

"Pink is horrid in my carroty locks," she murmured, "but it is gay, and I am bound to look gay and be gay before Cetta and Louetta Waddle. I know what the whole family is here for—just prying. Jeff's mother or father, is a cousin to Mrs. Waddle. O, I wonder if he has told anything." Then with a proud little toss of her head she went running down the stairs humming lightly. Had her guests been women of understanding—understanding of their own sex—they would have suspected that her flow of spirits was not genuine; but as it was they went home after supper completely baffled.

"Gracious, I never see her so gay," cried Mrs. Waddle emphatically, if not grammatically, as she and her daughters turned in at their own gate. That evening when Jeff went by to the postoffice, his relatives were ready for him, although they made a great pretense of talking about anything and everything save the subject uppermost in mind, for, be it said to the young man's credit, Jeff Greely was not one to discuss an affair like this, even with his father's cousin—"all in the family, too," as Mrs. Waddle had said reprovingly to him more than once the past month. But all Jeff would say was:

"We've quit, that's all."

It was just as he was starting on that Louetta, at a nod from her mother, burst out as if she had but thought of it: "O, Jeff, we have been to Westover's today; just got home a bit ago."

"Thought you'd all been gadding, you're so fixed up," the young man answered innocently enough, but the three pairs of searching feminine eyes saw the red blood surge up under the tan and finally crimson the white strip of forehead under the damp dark curls. "All well, I suppose," he added.

"Well I should say!" laughed Mrs. Waddle. "I never see Patty Pearl looking so happy and handsome afore."

"Glad to hear it, and now I must be going."

And the three pairs of eyes saw the blood recede and a young man, very pale under his tan and with a tense expression about the mouth, ride away.

"If I was you I wouldn't nag Jeff no more about Patty Pearl," said Cetta, the younger daughter, as the women returned to the house.

"You can't get anything out of him' nd it's my opinion she was making believe all day."

"Well, I'd give my eyes to know just the straight of it," said her mother.

"You never will know," said Cetta with conviction.

No sooner had Aunt Ruth and Patty got into the house, on their return from the hospitable little walk with their guests through the flower borders and down to the gate, than the former said:

"I guess my advice did ye good. I hain't seen ye so chipper in a long while."

For answer the girl said wearily: "I guess I'll go change my dress."

Could the Waddles have seen her for the next ten minutes they would certainly have carried a different report to Jeff Greely, and perchance that young man had not wandered aimlessly through the little grove that commanded a sight of the Westover home until past midnight. What tended to make matters worse was the fact the usual mid-summer township picnic was almost due. Not since Patty became a citizen of the Westover neighborhood had Jeff failed to take her to the picnic; and now, as he recalled the delightful hours spent in her society on those occasions, it seemed to him that he could not endure it. How could he take anyone else, and, what was infinitely worse, how could he see anyone else take Patty?

Why did he not go, like a man, assume the blame and invite her to the picnic? Well, why didn't he?

(To be continued.)

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A Poultry Talk.

HATTIE PEACOCK.

Now that the prize contest is over, I would like to talk about our (everything is "our," nothing "mine") hens. In the year 1901 we purchased 13 eggs of the R. I. Red variety, from which, after many mishaps, we raised three fine looking hens, which, owing to their being hatched late and not being given particular care, did not begin to lay until the following February. In the fall of 1901 we also purchased a full blood male. They were not at home with us until about the first of May. At that time they each laid an egg a day, and one of them would lay both a hard and a soft shelled egg each day for a few weeks and then go on a strike for a few days. We would think she was going to sit and each time be disappointed. She is two years old and has not set yet, neither have her two sisters. We fed them through the summer of 1902 on bran and corn meal mash for breakfast. They scratched for dinner and fed on wheat (soaked) and cracked corn for supper. Their water was from a drain from a boiling spring, and was pure.

We set nine hens (which we bought) on from 13 to 16 eggs each, and hatched between 70 and 80 chickens, which our neighbors' cats and dogs enjoyed thinning; but besides what we sold and ate we saved about 18 hens and bought another male, besides investing in two sittings of Brown Leghorn eggs, from which we raised six hens and a rooster. The latter we exchanged for another full blood male, and so we now have two pens. We fed the hens in the winter on mash for breakfast, wheat for dinner and cracked corn for supper; used gravel and oyster shells for grit and also gave them lime and ashes with fine dirt to burrow in, and put clover hay in the pens for them to pick at. Cleaned the pens and put dressing in barrels outside; gave them clean nests when the straw became "heavy," and gave them pure water, and if the weather was very cold, put red pepper in the water. The weather was as low as 18 and 20 degrees below zero, but we had no frozen combs or toes. Our chicken pens, like everything else around, are buried in trees, yet is not damp, for we have a breeze all the time. This year we have set eleven hens, mostly purchased ones, for the R. I. Reds prefer laying eggs to sitting, and have 140 chicks and have only lost three; those were crowded. From the 18 R. I. Red hens we would get an average of 16 eggs. Have sold 24 sittings; also sold a few sittings of Leghorn eggs. Those we set this year were the mongrels we bought to set last year and those we got this year. I have a customer who takes from one to three dozen eggs a week, and my husband sells his sister from one dozen to three dozen each week, besides those we sell for groceries and use ourselves. Those we sell we get from 16 to 42 cents per dozen for, but the average is about 23 cents. For poultry we received 16 cents dressed. We raise beets for them, and besides, when feed in the yards gets low in the late summer, we give them corn stalks. In winter they also have plenty of apples, cabbage, etc. For poultry I think the R. I. Red has no superior. They mature quickly, are plump and "full blooded," but their eggs, although large, well formed and even in color, are more watery than the Leghorn eggs. One hen, whether R. I. Red or Leghorn, lays as well as another.

We set our hens in barrels, using cedar excelsior for nests, and let them off one at a time, and never put eggs under a hen until she has set on the nest 24 hours, putting the eggs under her at night. We never have a hen leave her nest. Sulphur among the nest material, or moth balls, will lessen the number of lice. "We," (we, in this case, is not myself) clean the pen often, using plenty of lime and spray the inside thoroughly with kerosene oil, using a tin affair something like the "squirt guns" the boys make.

Gardiner, Me.

◆

Pillows.

PRISCILLA PRY.

To housekeepers and bachelor girls there is, probably, no more acceptable gift than a pillow for window seat or couch. We appreciate gifts from our friends, not so much for their intrinsic value as for the sentiment or individuality which they express. A pillow may serve as a reminder of happy days spent together by displaying some appropriate design. For instance, a pillow of cream linen with scattered pine needles and cones embroidered upon it with Asiatic filo will remind one of those rambles in the piney woods and, if the filling is composed of the fragrant pine needles, it will require very little imagination to conjure up the soughing of the wind in the pine tops as an accompaniment to the afternoon nap. Such a pillow should be finished with a brown silk cord at the edge, ending at the corners with loops and tassels resembling tiny pine cones.

A blue silk pillow, with a sail boat in outline, or a few creamy shells in solid embroidery, would bring to mind a summer at the seashore. A ruffle of the silk makes a good finish for this pillow.

A white lawn pillow with a few ferns in one corner and a quotation from some favorite author across the centre, makes an acceptable gift for a literary friend. A bar of music may be substituted for the lover of music. Two ruffles edged with narrow lace, the outer one being one inch wider than the other, is the proper finish. As pillows are liable to become soiled by use it is necessary to consider the matter of cleaning when selecting the materials for making them. The colors in Asiatic filo and Roman floss are perfectly fast and pillow covers embroidered with these silks may be washed without injury, by using soft water and a little Pearline. They should be rinsed in clear water and dried in the shade, then ironed with a moderately hot iron, being careful to iron the embroidery only on the wrong side.

Melrose, Fla.

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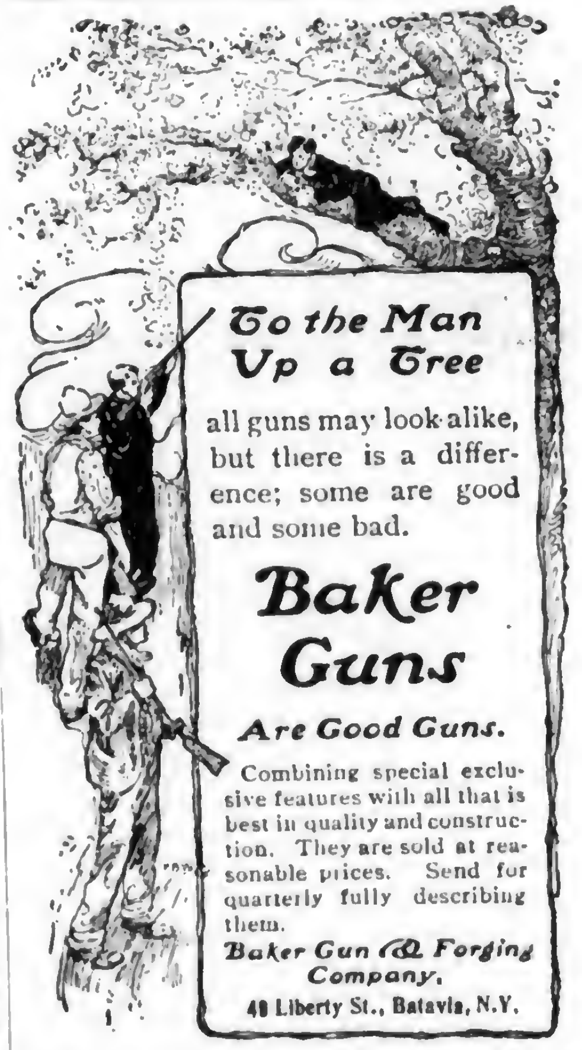
In the Kitchen.

SUSAN TODD TREAT.

The farmer's wife is such a busy person that every little convenience is a saving of time and strength. There are some things which all might have in the kitchen if only they knew of them and would take time to make or arrange them. A half of a clam shell to scrape pots, pans and kettles. A bright calico bag ten inches wide and twenty inches long, gathered and sewed at the top with a hang loop, and having a neatly hemmed 8-inch slit in front is for folded paper bags. Another similar bag is for clean, folded scraps of muslin. A pretty disabled cup, when standing on that convenient shelf, will be just right to hold a ball of twine. A baking powder can can be filled with fine sifted sand, to be used in scouring table, shelves or pots. Another can with a tight-fitting cover, can be filled with salt or sugar, then inverted and a lot of small holes made in the bottom, and it is ready for sifting. Saw off a few inches of the legs of a kitchen chair—it will be more comfortable to sit in while preparing vegetables. Have a small bell, horn or whistle to call the children, and insist that they come the minute they hear it. To save time, take up the cooked vegetables with a long-handled skimmer. Use folded newspapers to stand the pots and kettles on, or fold the papers and use as holders; or cut into six-inch squares and use to wrap eggs in when taking a few to market or elsewhere. A large iron hook (sharp pointed) screwed into the back of a door, will do to catch the folded papers on until needed. Grind the sage, nutmegs, lemon or orange peel (dried), in the coffee mill, being careful to clean the mill each time by grinding some very dry bread crumbs.


To the Man Up a Tree all guns may look alike, but there is a difference; some are good and some bad. Baker Guns Are Good Guns. Combining special exclusive features with all that is best in quality and construction. They are sold at reasonable prices. Send for quarterly fully describing them. Baker Gun & Forging Company, 48 Liberty St., Batavia, N.Y.

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ADVICE TO MOTHERS Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

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WINCHESTER guns are made for all kinds of shooting and Winchester ammunition for all kinds of guns. Winchester goods are always reliable and yet they cost no more than inferior makes.

Buy "BALL Band" BOOTS Rubber and Wool, Arctics, and Rubber Shoes.

Have a rack, on the wall just over the kitchen table, for pans, tins or kettle covers. Make as follows: Bottom board 3 inches wide, 3 feet long; end boards 3 inches wide, 12 inches high; back board 3 inches wide and just long enough to fit in between side-boards, near their top. This board will lie flat against, and may be nailed or screwed securely to the wall. Front pieces, two smooth, narrow strips 3 feet long; the whole painted or stained. Underneath screw small hooks, on which to hang spoons, etc.

A leather strap 12 inches long nailed to the wall at 2-inch intervals, is nice to stick knives or forks through. Tea matting, to be had for the asking at most grocery stores, can be used to good advantage in making neat mitten or glove pockets to hang near the kitchen door. Square or round pieces of the matting, when bound with pretty calico, may be used on the table under hot dishes. These are some of the little things which help.

Eagle Bend, Minn.

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Accidents.

R. E. M.

Everyone ought to know that wheat flour is the best thing to throw over burning kerosene oil that has been spilled and ignited, as in the case of a broken lamp. Water thrown on the burning kerosene will only spread it, while flour will smother it.

For burns, bathe the parts with a saturated solution of boric acid and then apply absorbent gauze saturated with the following: Eight ounces lime water shaken with eight ounces of raw linseed oil in which has been dissolved 75 grains of thymol. If these things are not at hand wrap the burn in soft linen and keep wet with a solution of borax.

For wounds bathe the parts with a weak solution of borax, and as soon as possible apply soft linen saturated with calendula. This should not be used very strong. Calendula cerate may be used instead of the liquid after a little while, when the wound begins to heal.

Melrose, Fla.

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Our Book Table.

MRS. E. R. CORNELIUS.

What food is to the body, books are to the mind, and a wise selection of literary works promotes mental health. In this age when books are so numerous, and the cost of procuring them so slight, assuredly every family should possess, at least, a few books. No matter how destitute, if the same ardor were displayed in procuring means to clothe the mind, as is done to clothe the body, none would be deprived of enjoying good literature. To be able to converse with the master minds of poetry and prose, sages who have spent a lifetime in pouring forth truths, teaching lessons of wisdom, showing the frailties of human kind, and pointing to paths of virtue and right, is a privilege not denied the lowliest. It is said "First impressions are lasting," so, should a taste for improper reading be formed in early life, how much harm this pernicious habit may do, and how difficult to seek a higher plane of mind culture. Thousands of juvenile books flood the land, but all are not worthy a place in the home circle. Make wise selections for the children; start them aright in developing a taste for good and useful, but do not crush the child's individuality. His preference may be for a style entirely averse to your own. "Provide the right conditions for mental growth, and let the child do the growing." If in the home are any books belonging to the lower strata of literature, burn them if necessary, but get rid of them some way, ere the child devours their contents and his childish mind receives seeds that will develop into thorns instead of blossoms.

A child reared in an atmosphere permeated with living thoughts of great authors must imbibe some of them. Many boys and girls have been led astray by the reading of vicious books, because of having access to nothing better. Wisely select the books, magazines and papers which enter the home. Strive to develop in our youth a love for the best literature, and lead them to see the beauties of the books that are immortal. Let them delve in the depths of Shakespeare; substitute Dickens for E. P. Roe; abandon the "Duchess" and awaken to the wonders of Hawthorne; and to appreciate the best of both prose and poetry, down to the recognized leaders of modern thought.

Hardy, Ark.

[While reading the above we are reminded of a paragraph going the round of the press concerning the late, assassinated King of Servia. One of the Associated Press correspondents, who was allowed to inspect the royal bed-room, writes: "French novels lay on the King's table." May it not be that much of this man's conception was due to his choice of reading matter? But, sister, what is there to condemn the writings of E. P. Roe? Comparing them with those of Dickens is hardly fair, perhaps, from a literary standpoint, but is there anything more wholesome about the latter than the former? Indeed, in our opinion the modern standard story book is cleaner and better for our youth than those old English ones. Times have changed. We do not say things in ordinary conversation that were considered proper then, and as they talked so they wrote. We agree with you that the "Duchess" be exchanged for Hawthorne. Facts, however, are stubborn things, you know, and this one remains: The great majority do not care now for any of those famous old writers. Examine the shelves of any public library. It is the "new" book that is always out; the late popular novel that is called for and well thumbed. Our club took pains to purchase sets of standard works and the librarian put them in a prominent place, and there, for the most part they remain, while the "orders ahead" multiply for the "new books right from the press."—Ed.]

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H. C. I. S.

SUSAN S. KRATZ.

The Editor has wondered that not more have joined the H. C. I. S. I understand a dollar invested in improvements on our homes entitles us to be members. According to this I doubt not that many are members only they are silent as to what they have done. We have been ten years on this farm. In that time we have spent many a dollar for improvements. First we built a chicken house, 2-story, 12x24 feet; then one 1-story 12x50 feet. Afterwards we built in space between the two chicken houses, 12x30 feet. This summer we built another 24x24 feet. Cement floors were put in part of the barn, also in the cellar of house. Two porches at the house; lots of wire fences; between one and two hundred pear trees, nearly one hundred apple trees, 18 plum trees, 1,000 currant, 1,000 blackberry and 100 raspberry bushes, 32 arbor vitae, 5 white pine, 18 Austrian pine and 3 Norway spruce trees. These evergreen trees we planted for a wind break on the north and west sides of the house. Lots of paint was used on buildings and yard fence. The front yard was enlarged and a nice lawn made. Two pumps were put in the house; one pump has a marble stone, cut out by a marble cutter, with a spout out through wall and a tub outside to catch waste water. This water is carried to the flower beds through the summer. The first year we had one cow; since have bought cows and raised calves, but have sold again. At present have just seven heifers. Have now 23 white Angora goats, and I know not how many White Pekin and Brazilian ducks, White African guineas and White Holland turkeys. You see we have improved the farm since we came. I don't think we had more than 50 chickens when we started, and those were almost all the colors of the rainbow. Now we have only white poultry; only the pigeons (which I forgot in the above list) are colored, some of them. The White Dutchies and Homers are what we breed. This spring we bought one Crimson Rambler and a Dorothy Perkins rose, four sour cherry trees and two grape vines. Last year we bought four grape vines. I hope this will be an incentive to others to improve their farms, that they may be worthy of a name. Our farm is the "Albino Poultry Farm."

Telford, Pa.

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Correspondence.

Fannie Noyes McDonald, Ft. Pierce, Fla., writes: Dear Mrs. Melville: We have but recently subscribed for the P. F., and I am much interested in your department. My home was formerly in Iowa, and my heart still turns fondly toward the green prairies of the North, from this far Southern State. I live upon the shore of Indian River, famous for its tranquil, picturesque beauty and the fine scenery of its wooded shores. This is the pineapple section of Florida, and an immense crop is being shipped this year. It is estimated it will amount to over four hundred thousand crates. The Indian River pineapples are the finest grown. The Atlantic Ocean is only two miles from here, across the river and an intervening island. Its roar is always in our ears, and its cooling breezes wafted to us, tempering the heat of this semi-tropical clime. I venture to send a little poem, which I hope you may be able to use.

HOME.

Within the walls of home
There's joy and pleasure,
Sweet, fresh and pure:
Within the walls of home
The heart's best treasure
Dwells safe, secure.

Within the walls of home
There's peace and gladness
Without alloy:
Within the walls of home
Is banished sadness:
Reigns love and joy.

Within the walls of home
Naught can molest us
Or make afraid:
Within the walls of home
Love's arms caress us,
Her vows are paid.

Within the walls of home,
Ah, refuge holy!
From toil and care:
A blessed place is home,
Howe'er so lowly,
If love reigns there.

[We welcome this new reader from her sunny Southern home. Please tell us all about pineapple culture, marketing, etc.—Ed.]

A school teacher writes: I should like to see in your columns some discussion of the lot of the country teacher, and will therefore give you my own experience in a far Western State. I came here to take up farming, but finding, when I had my place in good order, that I had very little to do in winter, and that my Harvard degree would get me a certificate, I looked about for some teaching. Hearing that the principal of a high school in a town ten miles off was finding he needed some assistance, I offered my services, and was engaged for the term that has just ended. In one way or another I soon got to know a large number of people, yet I was never once asked to anyone's house. After trying once or twice to pass an evening at the hotel where I took my meals, listening in an atmosphere of strong tobacco, to endless discussions on the price of shingles, or the prospects for hops, I gave it up, and kept to my own room. The evenings were bad enough, with nothing more lively than examination papers to read, but the holidays were far worse. May I be preserved from such another Thanksgiving, spent in watching through the drizzling rain the family gatherings in houses across the street, and wondering what they were doing in the old home in Vermont. I find from other teachers here that this experience is not in any way exceptional in this State. Perhaps some who are in other districts will say what hospitality they have met with, or others who are not in the profession, will inform us what they have done to make the teacher in their own place feel less lonely.

[We welcome this writer and heartily thank him for introducing a new and important subject. But we smile as we remember our early experience of patrons' hospitality and recall how we longed to be let alone, but then we were not in a hotel. It was a country district and we boarded with very dear friends. It was customary, however, for the school ma'am to visit each home once at least during a three-months term and "stay all night." We feel faint and sick even after all these years as we recall how like a death knell those words sounded in our ears: "Say, teacher, when ye comen to our house to stay all night?" We put them all off as long as possible, but finally succumbed to the inevitable. Too bad to speak in this way, too, considering that the best of everything was lavished upon us—chicken, pumpkin pie, apple sauce, all the treasured goodies of the year. The majority of the people lived in log houses, and if there were two rooms below and two above stairs, they were considered palatial. We usually spent the evening eating, praising the smartness of the olive branches belonging to that house and petting the baby. But bedtime would come, despite our antipathy to its approach, and then—well generally the whole family occupied one room—sometimes there were curtains, sometimes none—and every child wanted to "sleep with the teacher." One occurrence will serve as sample, though it was by no means the most unpleasant. The men folks were sent out doors while we—the children and "teacher"—retired. (We were thankful to find that we were to have but two bed fellows.) Partially disrobing, we made the final plunge, when lo! It was an old-fashioned "cord" bedstead, and of course the cord broke, and we existed that long, long night down in a hollow with two very loving, sleepy little girls—children we particularly shrunk from at best—on top.—Ed.]

To Clean Carpets. If you have a carpet that looks dingy and you wish to restore it to its original freshness, make a stiff lather of Ivory Soap and warm water and scrub it, width by width, with the lather. Wipe with a clean damp sponge. Do not apply more water than necessary. The vegetable oils of which Ivory Soap is made, and its purity, fit it for many special uses for which other soaps are unsafe and unsatisfactory.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 586, Aug. 22.—*What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in September?*

Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 580. If a Man Has a Farm Paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has?

Albert Murphy, Gordonsville, Va. — The Creator used great wisdom and love in placing within reach of His creatures, all things necessary for their comfort and well being; and in giving us the best possible instructions how they should be obtained and used. It is His will that we should prosper and have plenty. But Jesus warned us against covetousness, saying: "A man's life consisteth not in the abundance of the things he possesseth." As a foundation principle of life, we should aim to carry out His will, as it relates to ourselves and our fellow beings, in obtaining and using these blessings. When a man is so fortunate as to have a farm paid for, which is the best possible foundation upon which to build a comfortable life, it is a serious mistake—detrimental to his own welfare, cruel to his family, and injurious to himself as a neighbor and citizen, to invest his savings in more land to the neglect of improving what he has. To illustrate the results of taking the right or wrong roads in this matter, I will refer to the lives of two persons of my former acquaintance. One was a man, as real a slave as I ever knew, who owned thousands of acres of land, and by straining every energy was adding hundreds of acres annually. His business, which demanded his personal attention, spread over such a large territory that he spent more time on the road at night in his buggy than he did at home with his family. Perhaps not knowing that Solomon had said, "The abundance of the rich will not suffer him to sleep." He was too busy to fill his place as a good husband, father, neighbor or citizen. Business drove him seven days in the week the year around, until late in life, when his hope to "own all that joined him" was blasted by financial failure. The other was a woman, as free and cheerful as a songbird in a tree. She was left a widow with six children and quite a large debt on seventy acres, with poor improvements. She paid her debt, improved her farm, educated her children, filled her place in society, administered much to the sick and helped support the Gospel. The man took the wrong road, which made him almost a stranger to his family and neighbors, and a failure on every line for which he was created. The woman took the road through home duties to success. She was constantly busy doing something profitable for someone. She did not live on luxuries, but at the close of her busy days she could drop all her cares and immediately realize what Solomon said: "The sleep of a laboring man is sweet whether he eat little or much." She has since gone to her reward, but her memory is dear to many who felt her help and influence for good.

Walter E. Hoffman, R 1, Sigourney, Ia.—He should improve what he already has, make better accommodations for his stock, shelter for his machinery, and these of the best. With plenty of room, he will not need to stack hay outside to damage, and with every convenience for work he can save in wages. With well drained fields in the most fertile condition, he can raise larger crops more profitably. It costs four times as much to grow corn on land that makes 20 bushels per acre as it does on land making 80 bushels, since it takes four times the number of acres to get the crop. Having more land than can be properly managed a man may work himself to death, but with everything in the best shape he can enjoy life instead of wearing out his health to make a fortune, and then spending the fortune to regain health. Beautify the home, too, and have everything indoors, like books and magazines and papers and musical instruments. The man who has no music in his soul but the grunt of a fat pig is to be pitied.

A. W. Summer, Ann Arbor, Mich.—If a man has a farm paid for which is making him a living, he had better invest his savings in its further improvement. More land would add to the expense for labor out doors and in, less time for recreation and enjoying what he has. I know farmers, land poor, who are working themselves to death, hired help being hard to get, and life is a burden. I know others, with smaller farms, who do not work as hard, and who have more money at the end of the year. We pass this way but once, and when one has a competence, why slave for more. A man with a large family of boys, who wish to be farmers, might be justified in buying more land. But many a man who can profitably handle 40, 60 or 80 acres would be a failure on a large farm. Not every man can manage a large farm, even with plenty of help.

H. L. Smith, East Dixfield, Me.—I would advise any farmer to invest his savings in improving the farm he now owns until it has been brought to the best condition of productiveness, and is well equipped with buildings, etc. Then, if he is capable of managing a larger business, let him buy more. Fifty dollars spent in draining a wet spot will often pay a large percentage on the cost, as will also improved buildings.

E. E. Lawrence, Spafford, N. Y.—I think that the average farmer gets more real comfort and makes a better living by improving his land and his home surroundings than by buying more land. There are few farms that cannot be made more productive, and the difficulty with farmers in general is that they spread themselves over too much land and only half do things.

S. W. Burlingame, Sharon, O.—If he has already as much land as he can farm in the best manner, keeping everything in good shape, and gets off at times for a breathing spell, he has land enough. Too many spread out over more acres when it would pay better to deepen what they have. It looks big to own a great deal of land, be always over head in work, and have lots of hands for an overworked wife to cook for, but it does not pay in health and contentment for all who are concerned. It might pay to buy land merely as an investment, expecting to sell in a year or two. This will depend on the location and the prospect for land advancing in value. But a speculator needs foresight.

E. L. Eddings, R 6, Springfield, Tenn.—As a rule it is better to improve the land he has already paid for. Most farmers are trying to work too much land, when they could do better on half as many acres. Of course, it may be necessary to buy a convenient piece of land, but as a rule, it is best to improve what we already have. Most farmers will have to give a mortgage on the home place to buy more land. Then, too the children are often kept at home when they should be at school instead of at work. It would be better for the farmer to be content with less land and educate his children, for it should be everyone's desire to rear a family that will be an honor to their parents and useful in the world.

J. B. Johnston, New Wilmington, Pa.—As a general answer, buy no more land. Land has always been so plentiful in this country that it has been popular to have a large acreage. But men with many acres, though counted rich are really land poor. The tendency with American farmers is to spread out our energies, manure, seed and cultivation, till all are too thin for the best results. We need to learn concentration, and the getting of bigger crops on half the number of acres with less expense and labor. Then we would have more time to read the P. F. and other good agricultural papers, and would have more cash at the end of the year. More thorough work in every department is what the farms need. You ask: "What shall I do with the money I have been saving to buy more land?" Use it to get more comforts in the home and on the farm, and what is left put it at interest with some of your land poor neighbors. Have you made the repairs needed in house and barn? Have you as good stock as you want? Has your wife all the labor-saving conveniences for housekeeping? Have you a supply of hot and cold water in kitchen and bath, or does your wife pump and carry water to the kitchen? There are many ways for using money that will make us happier than in buying more land.

Ernest Wykes, R 1, Vineland, N. J.—Depends on what man is living for. If his farm is paid for and is producing well he can get rich faster by buying more land. If content with making a good living, laying by a little every year against emergencies, and living happily, the sanest view is to spend his surplus in mental culture along agricultural lines by allowing himself time for study; in the appearance and comfort of his home outside and inside; the purchase of the best labor-saving machinery, which will give him more time for the other things; profitably increasing the productiveness of the acres has both in quantity and quality, and giving the same attention to the wife's department.

W. F. Kennedy, Blue Ash, O.—I am in somewhat a similar condition, except that my farm is not all paid for, but if it was I would invest all my savings in the further improvement of what I have, such as good buildings, well painted, facilities for the saving of all manure, good fences, tile drains, up-to-date implements, thoroughbred stock, home comforts and the bringing of my land into the highest possible state of productiveness. When this is done then buy more land if needed, but I think the farmer will find plenty to do on what he has. A man may have a very small farm, and adjoining land may be good and this may be an exception. I have but 50 acres. Less land and better farming is my motto.

J. F. Williams, Findley, Ill.—I live in as fertile a section as any, where land has more than trebled in value in the past 20 years, but is failing in productiveness. Extensive cultivation and persistent soil robbery are the cause. Three years ago a farmer bought 160 acres of land for $62.50 per acre, and after thoroughly tiling it, sold it for $101.25 per acre. This might have been done before, but the owner believed in spreading out and thus thousands of acres are left untilled or badly tilled. There are large areas here that might be greatly improved by tiling alone, but the greatest blunder is in failing to grow anything but corn. The farmer I have referred to said recently that the little drought we have had is not responsible for the cloddy condition of the soil, but that soil robbery is. Farmers here carry as much debt as possible to pay for this high priced land. When, a year ago land reached $120 many believed that it would go to $200, but it seems now that a decline is at hand, and if it is, these interest-paying farmers will wish they had spent more money in improving what they had. A high price for land does not make it produce more, and does not make the owner rich so long as he does not wish to sell. Just what a man should have before buying more land involves many questions, and is a matter for each to settle.

W. D. Latshaw, Carlisle, Ind.—If he has his farm paid for there is no question that the best use for his cash is in the further improvement of his land. Many farmers have made slaves of themselves and families in attempting to pay for more land. What use is the land if the man has to slave out his life to pay for it? One who spends his entire time and talents in the accumulation of wealth becomes dwarfed in intellect and selfish in disposition. Use all surplus in improving and beautifying the home farm.

J. O. Shroyer, Humboldt, Neb.—We came here 24 years ago, where we owned 120 acres of good land, then worth ten dollars per acre. We put up such buildings as we could get along with. It was a great temptation to invest in the beautiful land around us which would soon advance in value, and in fact, is now worth $80 per acre. So we bought another 120 acres, and in ten years, when land had advanced to $30 per acre we had it paid for, and bought 80 more acres. But constant work and exposure had begun to show its effects, and we had no improvements worth speaking of, and we awoke to our right mind saying, "What do we want with half a section of land, and no comforts worth the name or worthy of one who has worked hard?" So I sold the last 80 acres when just ready to pay for them, and began to invest in the improvement of our home, and we erected buildings and have now the best improved small farm in the county. Have fine arched stone cave, good hog houses, barn, corn cribs, and a large machine shed filled with the most improved machinery, and do our own work. We keep the best horses we can raise, and do not need to sell them to meet obligations. We have a telephone and more papers, according to the estimate of the local paper, than come to any other home in the vicinity. We get some real pleasure from life and are not merely hoarding dollars. We have a large plant window filled with the rarest palms and greenhouse plants, and our lawn has rare and costly trees and flowers, such as one would not care for or have means for if always trying to get another piece of land. This has been done while there has been increased returns from the farm owing to better culture and closer supervision. Contentment with a reasonable number of acres enables one to cultivate the intellectual faculties and prevents a man from becoming a slave to filthy lucre.

Godfrey Winkler, Southwest City, Mo.—By all means invest your savings in the improvement of what land you have, and concentrate your efforts to make that land bring maximum crops. It is far more important to make the fields productive, and the buildings comfortable for family and stock than to increase the acres. Make your place a model and a wonder to the passers-by. Keep the best breeds of stock, and when there is nothing more to be done in that line, buy more land.

Glade Yeager, Sprankle Mills, Pa.—Taking the hired help question and the competition of the West into consideration, the Eastern farmer can do better by investing his savings in the further improvement of the land he owns, if of practicable size, than to add more acres. The prosperous farmer today is the one who gets the largest yields per acre at the least cost, thus getting a larger interest on the capital invested. To do this well we must improve the land, by draining where needed and by a good crop rotation, and in other ways, as we have been taught in Institutes, by Experiment Stations and the farm papers.

SUMMARY.

We regret that we are again compelled to leave out many contributions. But they would simply emphasize what has already been said. What a farmer should do with his surplus cash is a matter for each one to decide for himself. If he has the cash that is not needed on his place and can buy and pay for some land adjacent, that is cheap and may advance in price, it may be wise for him to buy. But if he has to go in debt for all or part of the land, it will not meet the question, which is one in regard to investing cash. Just after the war, in a prosperous farming section of Maryland, where we then lived, land had advanced greatly in price, and all the farmers were inclined to speculate in land at fancy prices. Many men bought farms and made mortgages on them and on the land they already owned, to pay for the new land. When times changed and land was depreciated in value there were numbers of these men who were sold out of homes, since it took both farms to pay for the one bought. During the high priced times we were riding in the country with a shrewd business man, and remarked on the great prosperity of the farmers and the great value of their lands. Our friend said: "I consider the present high price of land a great drawback to our farmers, and not an advantage." "Why so?" said we. "Well, take Mr. L., for example. Years ago his farm was worth about $25 per acre. He did not feel rich at all, and had to live economically. Now his land is worth over $100 per acre, but he is getting no more out of it in crops than he did. But his daughters say that papa is a rich man, and they must have finer furniture, finer carriages and everything to accord with his wealth, and the poor man, who does not want to sell his farm, is often obliged to borrow money on mortgage to pay for a fine house and other things he used to get along without, and he is really poorer than before." The man to whose place he referred had done this very thing, and had borrowed money of the man with us, and some years after the whole farm was sold to pay for the new house built in the flush times. There were hundreds of men in that same county who would have been in a perfectly safe condition had they been content to own the land they had paid for instead of going in debt for more. It is not the number of acres that a man has which makes him successful. We know a man who has raised a family of nine, and educated his children, and has never cultivated but 36 acres of land, and says that it takes but four acres to raise and educate a boy, and we know others in the same neighborhood who can hardly keep out of the sheriff's hands on 500 acres. The number of acres a man should own will depend on the capital he has and the man's ability to manage large affairs. If a man has been successful on a small farm it does not by any means follow that he can make a large one a success. There are men who can command a company of soldiers with success, who would make absolute failures as generals. And so it is with farmers. Some will be cramped, cabined and confined with a small farm, while others will be lost on a big one. So, whether a man should own 50 acres or 500 acres will depend on the man himself and his capital. There are few farms in this country which have been brought up to the production of as great crops as they can be made to produce, and when a man has a farm of fair size paid for, the best thing for him is to invest his cash in the further improvement of this farm. With most farmers the desire for more acres is a lack of faith in the soil and the practicability of increasing its productiveness. The man who is getting but ten bushels of wheat or a quarter of a bale of cotton per acre, wants more wheat or more cotton, and as he has no faith in the farm he concludes that the only way to get more crops is to own more land, while he might get larger crops at a smaller cost through the development of the full capacity of the land he owns. One man has a poor and unproductive farm right alongside of one that has been brought up to a great productiveness by good farming, and has made the owner well-to-do. Ask him why his land is not producing like his neighbor's and it is likely he will at once say that it is because he has not the means for its improvement that his neighbor has, though he ought to know that it is the good farming of his neighbor that has made him the means. But, after all, as one of our friends says: "A man's life consisteth not in the abundance of things he possesseth," and to count a man's success by the number of acres he owns, or the cash he has invested is often a poor measure of success. We have known men who were successful in accumulating great fortunes, whose lives were the worst of failures in all that constitutes real success. They got riches and left drunkard sons to use it up, while others who made less money sent out sons who were useful citizens and took an active part in the world's work. The man who raises a family of upright men and women and educates them for their life work, has made a success, even though he dies poor in the world's goods. The making of a happy home is of far more importance than the piling up of money or adding thousands of acres.

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SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Cleaning Wall Paper.—The most satisfactory way of cleaning smoked and discolored wall paper is to mix bread crumbs with gasoline and water, in proportion of one-half cup gasoline to one quart of water; moisten bread with this and roll into a ball. Rub paper with it and when one part is dirty turn it inside. When unfit to use any longer make a fresh ball. Never use gasoline in the room with a fire or lighted lamp.

A Most Effectual Way of getting rid of the small ants that are so troublesome, is to place pieces of pie crust where they bother anything. They will prefer that to anything else and soon gather on it. Have boiling water ready and drop crust and ants into it. Repeat until rid of them.

MRS. D. HARRIMAN.
Box 142, Newark, Ohio.

Washing Recipe. — To one gallon hot water add two tablespoonfuls Pearline, two of borax, two of kerosene, two of potash. Stir while dissolving. To three gallons of water add one cup of fluid. Add soap enough to make a good suds. Wet clothes in either cold or warm water before putting in to boil. Let cleaner clothes boil ten minutes, worse soiled ones 15 minutes. Stir well while boiling. Shake fluid well before using. Rinse through three waters. Clothes badly soiled may need some rubbing after boiling. Saves labor, time and clothes.

Decherd, Tenn. MRS. F. KENNERLY.

To Make a Wire Rope Pulley.—Take an old barn door roller; remove the wheel and break off the long shank to the length of the short back shank. Then have blacksmith drill a ⅜-inch hole in the top over the wheel and insert a round eye made of ⅜-inch round iron, then replace wheel and it is done. LEVI R. MARKWOOD.
Erie Co., Pa.

To Make Tracing Paper.—Dissolve a ball of white bees' wax one inch in diameter, in half a pint of turpentine. Saturate the paper in this bath and let it dry two or three days before using.

To Make Tough Meat Tender lay it a few minutes in strong vinegar water.

Corunna, Mich. B. C. GRANT.

Buying Shoes.—Never buy shoes in the morning if you have tender feet. The feet are larger toward night than early in the day. Walking and standing relax the muscles so that shoes which fit perfectly in the morning are apt to be too tight in the evening. Much discomfort from new shoes might be avoided by observing this simple rule. Boys' shoes of the proper size are more comfortable and much cheaper for women's out-door wear than the much advertised walking boots.

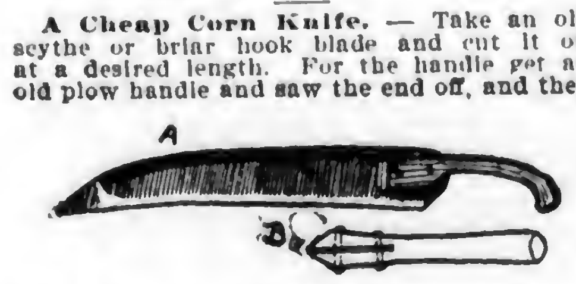
Berlin, Md. R. P. HANDY.

Handy Box.—Nail a small wooden box (a salt box is nice) over the work table, and keep in it a supply of clean scraps of cloth. When you have a greasy dish wipe it out with a scrap of cloth before washing. The scraps will save the dishcloth many times every day, and can be burned when used.

Farina, Ill. MRS. J. COON.

For Wash Day and washing dishes I find an oilcloth apron more convenient than any other kind, as it saves all the water off of one's clothes. Cut it almost round, bind with any color of calico, sew on two large pockets of the oilcloth, for clothes pins, and it is finished. MRS. F. COOPER.
Labette City, Kan.

A Cheap Corn Knife. — Take an old scythe or briar hook blade and cut it off at a desired length. For the handle get an old plow handle and saw the end off, and then



saw a slit in the end of the handle about 4 inches long, for the blade to fit in as shown in B. And then fit the blade in the slit of the handle and drill two holes in desired places, and fasten securely with two small bolts. ARTHUR W. MERRILL.
Pokomoke City, Md.

Tooth Powder.—Take 2 ounces prepared chalk and 4 ounces pulverized charcoal; mix well together, then add a few suds of Ivory or any pure soap; add some spirits of camphor or pure alcohol; enough to thicken thoroughly. Use once or twice a week, and the tartar cannot remain. It excels the purchased acid preparations, and is so cheap. Let all P. F. readers give it a trial and convince themselves. W. T. REHSE.
Brandon, Miss.

Convenient Hog Trough. — The V trough which is in general use, is not fit to be in any pig pen, except to waste feed and stunt the swine, decreasing the profits of the farmer. In the following I will give the dimensions and construction of a large sized trough, but which can be reduced to any extent, according to the necessities of the user. Take one plank 2x10 inches 16 feet long for the bottom, two planks 2x8 inches for the outward slanting sides. Bevel these, so that when nailed together the top or spread of trough will be 20 inches or so in the clear; this will give about 4 inches of perpendicular capacity. The ends are 2x6 inches 2 feet long. In one of them bore an inch hole for drainage. Every 12 inches fasten cross-pieces, which are preferably made of hard-wood broom handles. This division of trough is for shoats, but for hogs 200 pounds and up, there should be not more than ten spaces. In the first instance it will feed 32 shoats; in the other, 20 large hogs, which will feed as quietly together, as a lot of dehorned cattle at the rack. Set trough end to the fence and feed the slop by a spout. Now a partition 18 inches or so wide and 16 inches long is fastened in the centre and 6 inches or so from the bottom of trough. The method of fastening this will occur to the builder without any detailed instructions. But the amateur when he tackles his first trough will "gnash his teeth" and swear at the bevel and wish for a wiser man. As is the case with all troughs, they should be set on a floor and in an enclosed lot, from which the hogs are expelled until the feed is all in. This will prevent jamming and daming the slop in its flow. Lumber of any thickness may be used in making smaller troughs, but where they are of soft wood the edges should be protected with strap iron or wire. 1x6 and 1x4 inches makes a good trough for young pigs. When it is to be set against a partition the back side should be beveled very little, and raised, so as to drain to the front. In this case the spacing can be much closer and the cross-pieces should fasten on the partition, high enough up to prevent pigs from getting lengthwise in it. A pig will rather put his feet in the trough, when it would seem easier to keep them out, thus causing filth and waste. From any of these troughs they can get the feed without this necessity, and it can be made difficult for them to do so.

Adrian, Mich. W. L. CHALLIS.

How to Can Fruit.—I cook all kinds of fruit in the cans. I take my boiler, put in half a dozen old can rings, then lay an oven grate on these. (I have a broken one I use.) Fill the cans with fruit, shaking the fruit down as solid as I can without mashing it. Screw on the cover a very little. Set the cans on this grate, but do not let them touch each other; then put cold water in the boiler until the water comes a little over half up on the cans. All soft fruit I allow to boil ten minutes, no longer. Fruit that is harder to cook requires fifteen minutes boiling. I always use one cup of sugar to a quart of fruit. This I put in a dish, pour boiling water on it, taking care not to get more syrup than the cans will hold; have this boiling hot when the fruit is done; also have boiling hot water in the teakettle; if there is not enough syrup to fill the cans, fill with the boiling water. When fruit is done, take off tops, set cans on a wet cloth, wrap another cloth around them, fill with the syrup, screw cover on tight, turn bottom side up until cool. Fruit canned in this way will retain its flavor much better than canned any other way. I always can tomatoes this way, except I never put anything in them when I can them, and always cook a few in a dish, to fill the cans after taking out of the boiler. My tomatoes always come out of the cans whole, firm and fresh. I can about 200 quarts of fruit each year, and have never had a can of fruit spoil in any way yet.

Orwell, Pa. SUB.

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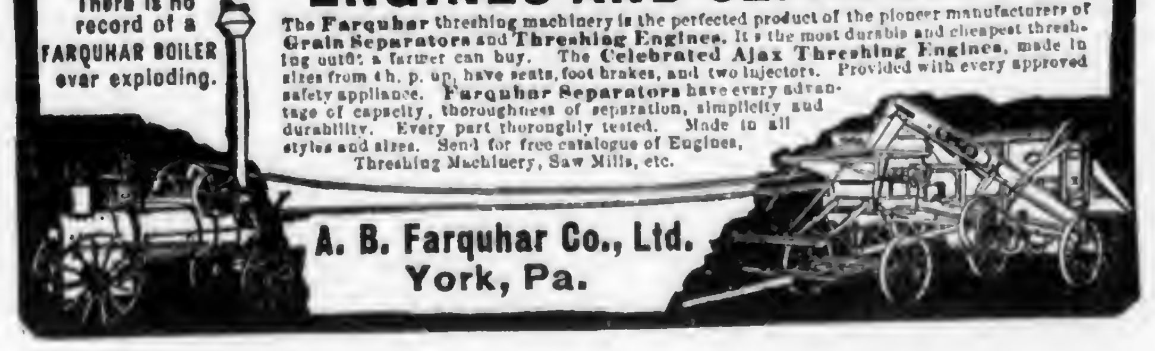
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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Summer Pigs.—I wish to tell the readers of the P. F. my experience with summer pigs. My sow farrowed 10 pigs July 2, a cross between P. C. and O. I. C. I decided to keep them all, for it would be difficult to sell at that season of the year. I had to buy everything they ate until corn was ripe. However, they had the run of the orchard, also clover pasture. Pigs ran with sow for about three months, and during this time received no milk from other sources. There were two small runts in the litter and these cut down the average greatly. It doesn't pay to keep these runt pigs; better sell or give them away. I tried to give them a balanced ration as nearly as I could, the feed consisting of one-half middlings, one-fourth bran and one-fourth corn meal, by weight. I moistened the feed with cold water; not enough to have it sloppy, and they had plenty of water to drink. I did not charge for labor of feeding; manure would balance that. During the pasturage period salt and ashes were kept before them at all times, also coal every day; it keeps them healthy. There was a strict account kept of everything in mill feed and new corn until pigs were sold. Price of middlings and bran $1.30; corn meal $1.60.

Middlings, corn and bran	$11.72
New corn fed from Oct. 1 until sold, Nov. 19, 47 bu. (mostly small corn) at 25c. per bu	11.75
Service of male	1.00
Total	$24.47
Nov. 19, sold 8 pigs, 880 lbs., @ 5c.	$44.00
Two kept for home use, dressed 210 lbs., @ 7c.	14.70
Total	$58.70
Balance	$34.23

If the pigs could have been sold a month earlier the price would have been $6.50. Please do not think this account is a boastful one, for the weight per pig is small as compared with what others have done. I have given it as taken out of account book; no guess work. OTIS A. CHATLEY.
Cochranton, Pa.

To Label Milk Pans or Crocks.—We got narrow strips of tin, some 3 inches long and some 1½ inches. Bent one end twice, one-third of an inch between the bends, to hang over edge of pan. On the other end paste letters cut from newspapers, to represent each day of the week. We use S for Saturday, Su. for Sunday, M for Monday, Tu. for Tuesday, T for Thursday, etc. Numbers could be used instead of letters. We use the long labels for morning and the short ones for night, with the same letters on both. As many as are desired can be made, and we find them very convenient.
Farina, Ill. M. S. ANDREWS.

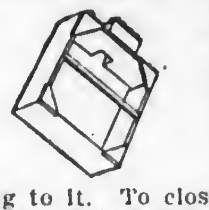
To Remove Stains.—All stains should be removed before articles are put in wash tub, for the sooner a stain is treated the sooner it will come out. Pour boiling water through fruit stains; if obstinate, soak in solution of oxalic acid. Wash vaseline stains in alcohol; paint in turpentine or alcohol; varnish in alcohol; grass or other green vegetable stains in alcohol, kerosene or molasses; for stains from blood, meat, etc., use white of egg in cold water. For tar, wheel grease or machine oil stains rub with lard, let stand a few minutes and wash with soap and cold water. Tea, coffee or cocoa stains can be removed by pouring boiling water over, or if set from long standing, use a weak solution of oxalic acid.
Waddington, Cal. G. H. KEOHAN.

The Incubator Doors. — It is a great mistake to shave off the doors of incubators that have swollen while in disuse, as they will soon dry out in use and cannot be controlled. Put them in a dry, warm room and they will soon be in shape. Users of the "Reliable" incubator will do well to use asbestos packing on the funnel which conducts the heat, and thus save a great deal of heat and oil. C. H. MASTIN.
Lake Nebegamon, Wis.

Baffling the Striped Bug.—Last season I resolved to try tobacco dust on squashes to keep off the striped bug. I put off getting the material until late and when I went to the store for it there was none on hand, so I took tobacco stems instead of the dust. The plants had been up about three days. I covered the ground around each plant an inch thick with the stems, using about a pound to the hill. After each rain I added a quarter of an inch more, using about three pounds to each hill of three plants during the season. No bug of any kind troubled the plants from the time they came out until the squashes were harvested. No fertilizer of any kind, except the stems, was used, and I had a very fine crop. Tobacco chewing is too filthy for even an insect and men should learn a lesson from them. Still, I think it will pay to raise the weed just for a fertilizer and insecticide. J. A. WILSON.
Amesbury, Mass.

Setting Good Sized Trees.—When we moved to our present location four years ago, we were badly in need of some shade trees near the house. The following spring we carefully uprooted four sugar maples 12 to 15 feet high and 4 to 5 inches through the body. We made good sized holes, so as not to crowd the roots, and set them in, filling up with a few shovelfuls of good soil and a bucket of water alternately, firming as well as we could around the roots. We now have shade trees to sit under. Of course, we pruned the tops, as some few of the roots were broken off. RACHAEL ARMITAGE.
Damascus, O.

Run for Small Chicks. — Construct a frame 6 feet long and 4 feet wide, using 12-inch boards. Stretch one or two-inch mesh wire over the top very tightly. Brace frame at corners and cut a square hole at one end for opening. Nail two boards on each side to brace it. Place a box or coop on the outside for shelter, the opening in the frame leading to it. To close box, simply move it past hole. A larger run may be made, but must be braced in the middle across the top.



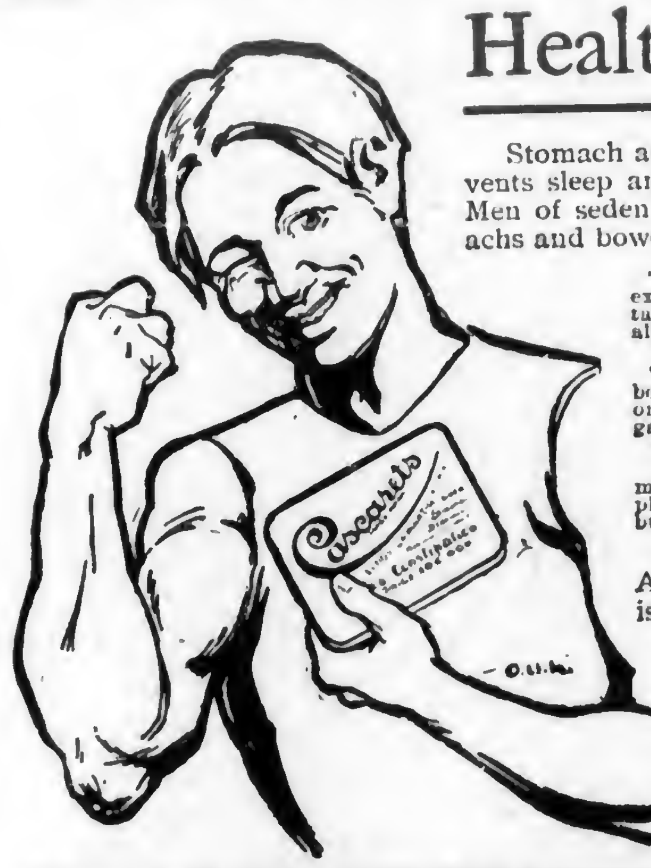
Oneida, Kan. MRS. J. S. ANDERSON.

Times Have Changed.—In reading Mr. Terry's account of the city family that got rich on a farm by eating potatoes and salt and not wearing over $50 worth of clothing; and the wife working hard out of doors, I thought that any family with good health could do the same. I might have been rich, too, if I could have induced wife and family to work hard on potatoes, and salt and wear ragged clothes; so might any farmer in Western New York. I think Mr. Terry and his city friend were both fortunate in getting such good wives. A young man would look a long time here for a wife if he were to ask her to live on potatoes and salt and wear ragged clothes. Times now are different than when the country was new. Then farmers were glad to get enough to eat of almost anything. I have seen boys go past at break of day, drawing wood to the railroad, with not enough clothes to keep them warm, and wearing old leather boots with holes in them. Now times are changed; there is no wood to draw; the boys lie abed until the sun is up and breakfast is ready, and the "old man" has the chores done. Verily times have changed; clothing of all kinds ready made; bread, cookies and pies all ready baked; milk goes to the creamery and there is lots of time for missionary work. HUGH McCLURG.
Moscow, N. Y.

Thinning Corn. — One of the greatest mistakes we farmers who use drills make, I think, is in connection with thinning corn. Will give a little of my own experience during the past two years. Both were dry seasons on early planted corn in this locality. I planted my corn 20 inches apart and secured a good stand. When thinning time came it looked like ruining my corn to cut out every other stalk; so I just cut out one occasionally, selecting the weaker ones for this purpose. I had about 8 acres cultivated by another man on the place; of like ground and planted same way as mine. I went through the field after he had thinned his part, and it looked as if he had ruined his crop by cutting out so much. But owing to his corn being thin it stood the drought better than mine and he made fully one-third more corn to the acre. Last season I cut out more than the year before, but it was still too thick; I had a strip which the cut worms thinned and this proved it. WALTER ATHERTON.
Nuckols, Ky.

Cleaning Baby's Cloak.—Baby's short cloak of cream white cashmere with an interlining was quite soiled. I did not like to wash it in any way, for that would necessitate the use of a hot iron to press it, and the marks of the iron would detract from its new appearance. So I took three quarts of benzine, which is quite cheap bought by the quantity, and after soaking the cloak a little while in it, rubbed it out by hand the same as if in water. After rubbing it thoroughly all over I shook it out and hung on the line to dry. By hanging it out doors every day for two weeks the odor of benzine was hardly noticeable, and the cloak was as clean and unwrinkled as when new. Other things, such as silk waists, mufflers, embroidered shawls, etc., can be cleaned by this method. After letting the benzine stand a while for the dirt to settle to the bottom, I poured off all but the settlings into a large bottle to use again. It is better to do such work in warm weather, as it must of necessity be done in a room where there is no fire nor a lighted lamp carried. Air out well after finishing. MARIAN O. BROWN.
Ithaca, N. Y.

Hedge on Thin Land.—I noticed in the P. F. how to plant hedge for a fence. I cannot say that we made a mistake in setting a hedge fence, simply because we did not know the nature of the growth of hedge plants. We set an Osage orange hedge on three sides of a 9-acre orchard, which cost $100 and was to grow in a few years to become hog proof. It has been set about 15 years and will not keep a large hog out anywhere on the hillside, where the land is thin clay. The growth is so slow that it has not attained a height of 4 feet on the thin land, does not branch or spread worth a cent, and the roots on either side of the fence take the strength of the ground for at least 5 feet. I am not very favorably impressed with the hedge fence, nor with trees close together along a fence line. The hedge will take the strength of the land for 10 or 20 feet, and on thin land will not grow strong enough to keep a hog out, nor high enough to keep a man from stepping over. And it takes as much time to keep it trimmed where one part of the field is thin and the other deep soil as it would if it were all deep, and the result is an uneven fence. On the deep soil the hedge grows strong and vigorous and is difficult to keep down, while on the thin land it needs to be induced to grow. I think it unwise to set hedge on such land as ours.
Wickliffe, Va. J. H. DUBLE.



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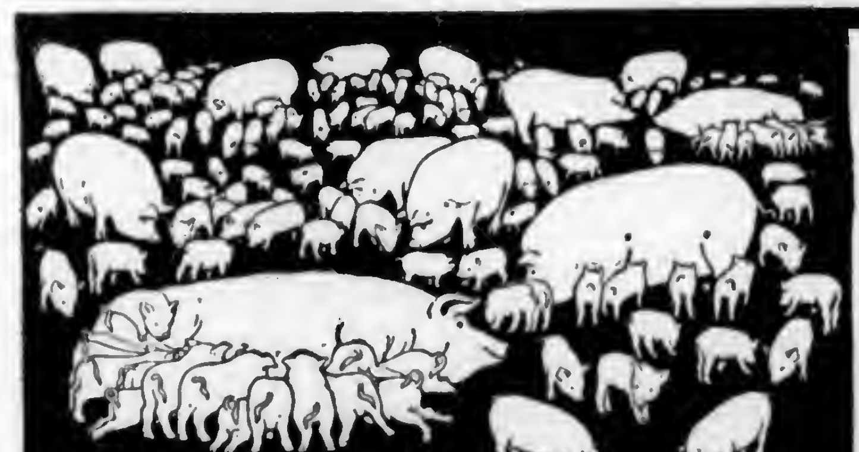

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OUR PREMIUM DEPARTMENT.

We have started in this Department this week a World's Fair Contest, which we think will prove immensely popular. Every present subscriber can enter the contest by sending a single trial subscription. Somebody is going to earn $30,000 by simply estimating the number of people who will attend the St. Louis World's Fair. Will it be YOU? Read the particulars on this page and then get up a club. For every new 6-months trial subscription at 50 cents you send you will be entitled to make one estimate, and each of these new subscribers has the same privilege. Go to work at once. It will take like hot cakes on a frosty morning.

The Practical Farmer Fountain Pen is the equal of any $2.50 pen on the market. In fact, there is none better made. We have tried it thoroughly alongside of a $4 pen and we can see no difference. Only $1 for the pen postpaid; $1.25 for the pen and a year's subscription to the P. F., or the pen free for a club of 6 yearly subscriptions to the P. F. at 50 cents each.

Don't forget that proposition we made last week in this column. The P. F. to Jan. 1, 1904 for 25 cents in clubs of 4, and a choice of either "The Household Guide," "Farm Helps," "The Garden Book," or "The Garden Book No. 2," to the person raising the club.

In the past we have said some choice things about T. B. Terry's book, "Our Farming." It merits all the good words that can be spoken or written about it. We know of no more interesting or instructive book in the whole range of farm literature. It reads like a romance, while it is the plain story of a successful struggle against and victory over the most adverse circumstances. Price, $2 postpaid, or $2.50 with the P. F. for a year.

Prof. Massey in his book, "Crop Growing and Crop Feeding," has made a most complete and valuable contribution to agricultural literature. It is equally applicable to the farm, garden and orchard, and written in a plain, matter-of-fact style which will commend it to the farmer. Price, $1 in cloth, or 50 cents in paper.

The P. F. Guaranteed Knife has been sold by us for years, and it has never failed to give satisfaction. In fact, we could not afford to guarantee a knife that was not right in every particular. We send it and the P. F. for a year for only $1.25.

We are giving our friends some hot weather bargains these days. What is described on this page this week is only a sample of what we are doing. We want to get the P. F. into many thousands of new homes this summer and are making extra inducements to do so. Will YOU help us in the good work?

Is your next neighbor taking the P. F.? If not, show him how he can get the P. F. for 6 months for 50 cents and perhaps that $30,000. Tell him that the P. F. is good the whole year around, rain or shine, hot or cold, and that he is making the mistake of his life in not availing himself of the help which its columns can give him.

Practical Farm Experience

No. I.

405 Pages. 237 Subjects Treated.

Compiled from the columns of The Practical Farmer and edited by Prof. W. F. Massey. Completely indexed.

A Complete Farmers' Institute in your own home, with discussions on every farming subject imaginable, from every section of the country. Men who have succeeded tell you how they succeeded, and the surest road to success is following in their steps.

Practical Farm Experience stands alone as the most unique and useful publication ever put in type, as there is nothing like it in agricultural literature.

As a Book of Reference it is invaluable to every farmer.

A Book on American Farming Written by American Farmers for American Farmers.

Its Contents are direct from the soil by soil tillers who till for profit as well as health and pleasure. Space will not permit us to give a detailed list of its contents, but it is sufficient to say that *nothing is omitted.*

Price, 50 cents, Postpaid.

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By T. GREINER

Mr. Greiner has the reputation of being the best and most practical writer on Garden Topics in this country. In "How to Make the Garden Pay" he has concentrated years of practical experience, combined with a thorough theoretical knowledge. It contains all that is known about gardening from A to Z.

Price, $2.00, postpaid. Handsomely bound in cloth.

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A book for the farm, garden and orchard, giving special instruction for the use of commercial fertilizers. A book that means the saving of hundreds of dollars by every farmer who studies its methods.

Crop Growing AND Crop Feeding

Forty-nine Chapters, 383 pages, of the most condensed, practical, money-saving and money-making information to be found anywhere; by

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whose work in this direction is known to every P. F. reader.

Paper covers	*50 cents*
Together with the P. F. 1 year,	*$1.25*
Cloth bound	*One dollar*
Together with the P. F. 1 year,	*$1.50*

Our Farming

T. B. Terry's Book

A complete record of his farm work, covering a period of 23 years. Mr. Terry is the best known farmer in the United States, and one of the most successful. He began farming handicapped by all the difficulties that can environ any farmer. He was without experience, he had a small, very poor farm, he was heavily in debt, and without stock and implements, yet he overcame all these difficulties, paid off his debts, made his farm rich and productive, and has accumulated money.

How he did it is told in "Our Farming." The work is written in the plainest and most matter-of-fact way, giving in the minutest detail

How the writer succeeded in his efforts to make a poor, worn-out, run-down farm one of the best paying and most productive pieces of farming land in the country.

It is interesting as a romance and the most practical, helpful book for the farmer that has yet been published.

Contains 368 pages, printed with new, large type, on fine white paper, with an excellent, finely engraved portrait of the author and numerous full page and smaller illustrations. Handsomely bound in cloth covers.

PRICE, POSTPAID, $2.00.

The Practical Farmer for one year and a copy of "Our Farming" postpaid, for $2.50.

A BONANZA FOR AGENTS.

We want agents for all parts of the United States and Canada to take subscriptions for "Our Farming" and THE PRACTICAL FARMER. We pay a large commission and the right parties can earn big wages during the entire year.

We Want an Agent at Every Post Office.

Write at once for terms.

A Guaranteed Knife

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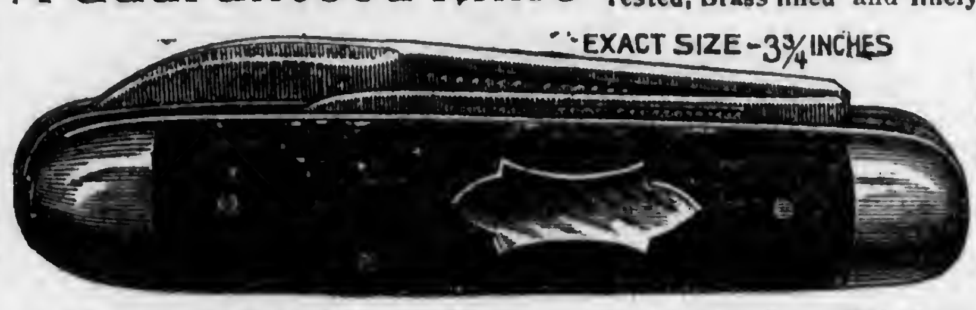

We guarantee that the blades are not soft, and are free from defects. If the knife is defective we will exchange for another if blades have not been put on a grindstone. **We will send the P. F. to January 1, 1905 and this knife, postage paid, for only $1.25.**

TO ADVERTISE THE ST. LOUIS WORLD'S FAIR.

$75,000 IN CASH PRIZES

First Prize,	$25,000.00	Fourth Prize,	2,500.00
Second Prize,	10,000.00	Fifth Prize,	1,500.00
Third Prize,	5,000.00	Sixth Prize,	1,000.00

AND $30,000 IN 1,883 SMALLER PRIZES.

Can you estimate how many people will attend the St. Louis World's Fair? The 1,889 people whose estimates are the closest will receive $75,000 in Gold.

Every one has an opportunity to share in the $75,000.00 to be paid to the successful contestants. This grand educational contest, undertaken in order to arouse interest in the greatest World's Fair the world has ever seen may bring you a fortune, and if you are careful in your estimates it is almost sure to bring you at least one of the prizes of $50.00 or $100.00, while you stand an equal opportunity to get the $30,000. Hundreds of people will be made richer by competing in this great contest. Why not you? Every American should do all he can to help spread interest in the World's Fair, and when he can do this with profit to himself the reason for it is double. You cannot afford to overlook this grand opportunity to gain a fortune for yourself.

HERE ARE THE PRIZES.

To the nearest correct estimate	$25,000.00
To the second nearest correct estimate	10,000.00
To the third nearest correct estimate	5,000.00
To the fourth nearest correct estimate	2,500.00
To the fifth nearest correct estimate	1,500.00
To the sixth nearest correct estimate	1,000.00
To the next 10 nearest correct estimates, $200 each	2,000.00
To the next 20 nearest correct estimates, $100 each	2,000.00
To the next 50 nearest correct estimates, $50 each	2,500.00
To the next 100 nearest correct estimates, $25 each	2,500.00
To the next 200 nearest correct estimates, $10 each	2,000.00
To the next 500 nearest correct estimates, $5 each	2,500.00
To the next 1,000 nearest correct estimates, $1 each	1,000.00
Total	$59,500.00

Supplementary Prizes for the Estimates sent in Earliest	**$15,500.00.**
For nearest correct estimate sent in between February 1, and July 1, 1903	$5,000.00 extra
For nearest correct estimate sent in between July 1, 1903, and January 1, 1904	$5,000.00 extra
For nearest correct estimate sent in between January 1, 1904, and May 1, 1904	5,500.00 extra.

GRAND TOTAL OF CASH PRIZES...$75,000.00

INFORMATION THAT WILL HELP YOU ESTIMATE.

The total paid attendance at the Chicago World's Fair was	21,480,141
The total paid attendance at the Buffalo Pan-American Exposition was	5,306,859
The total paid attendance at the Omaha Exposition was	1,778,250

Without doubt the World's Fair at St. Louis will be the largest ever held in the world.

HOW YOU CAN WIN ONE OF THESE PRIZES.

We will send The Practical Farmer to a new name for 6 months for 50 cents and the new subscriber will be entitled to make one estimate in this Prize Contest. Each present subscriber of the P. F. who will send us one of these 6-months trial subscriptions will also be entitled to make one estimate. In other words, 50 cents will pay for The Practical Farmer for 6 months and 2 estimates in the contest, one for the new subscriber and one for the old subscriber who sends the subscription. A present subscriber to the P. F. can send as many of these 6-months trial subscriptions as he or she chooses, and will be entitled to one estimate for each subscription; **but these subscriptions must be new and not renewals.**

Write your estimate plainly and also your name and address.

For each estimate you send in, a separate engraved and coupon numbered Certificate, issued by The World's Fair Contest Co, St. Louis, Mo. will be sent you with your estimate shown thereon. These certificates to be retained by you until the close of the contest. YOU HOLD YOUR OWN CERTIFICATES. Get in your estimates early, as $15,500 extra is to be divided among the earliest estimates received.

HOW THE CONTEST WILL BE DECIDED.—The Official Record of the Secretary of the World's Fair showing the total paid attendance will determine who are entitled to the prizes, and the awards will be made by a committee of prominent Judges. Prizes will be paid in cash immediately after. If more than one estimate is correct, the prize will be equally divided.

MAKE UP CLUBS FOR THIS CONTEST.

We urge our friends to make up clubs in their respective neighborhoods in this contest. A club of 5 six-months subscriptions will entitle the club raiser to five estimates, besides the estimate to which each subscriber is entitled. A club of ten will give the club raiser 10 estimates and so on. You can subscribe for a friend who does not take the P. F. and have the paper sent to him and you have both estimates. Start in at once, so that your estimate will be in line for the $5,000 extra for the nearest correct estimate sent in between July 1, 1903, and Jan. 1, 1904. Your estimate may win both that prize and the $25,000 one. Address

THE FARMER CO., Publishers The Practical Farmer, Philadelphia, Pa.

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The Practical Farmer Fountain Pen, Price $1.00, Postpaid. Guaranteed the Equal of any $2.00 Fountain Pen Sold.

The ink does not dry in the pen; it can be used one day, laid aside for a week, and is then ready for business instantly; no soiling of the fingers; best gold pen and point; hard rubber holder; fully guaranteed in every respect; money back if not satisfactory. Plain or Stub point, as desired.

We will send the P. F. for one year and a Practical Farmer Fountain Pen for only $1.25; less than you would pay for the pen in any store. One of these pens FREE for a club of six yearly subscribers to the P. F. at 50 cts. each.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in northeastern part of the State. It has been very dry, but a great deal of rain now, which will injure harvest. Wheat and oats made; tolerably good; fine prospect for corn; it is in silk and tassel now, and laid by. Prospects for cotton poor; not a good stand, and worms are at work on it. Fine crop of blackberries, which are now ripe. Prices: Corn, 75c. per bu.; hens, $4; fryers, $3.60 per doz. OLLIA E. ATOR.
Lipan, Texas, June 24, 1903.

Situated in York Co., central part; southernmost county. Spring very dry; no rain to speak of for 50 days; drying winds; rainfall in abundance on the 12th and 13th. Much corn planted over; pastures short; hay will be a short crop; some newly seeded on moist ground will be very good. Apples will be a light crop; onions will be light on account of maggots. Heavy frost the latter part of May killed peas, and even clover did not escape. No call for cattle of any kind, on account of quarantine. Butter, 20c. per lb.; eggs, 17c. per doz.; corn, $1.30 per bag. Climate very healthful. E. W. ABBOTT.
Ross Corner, Me., June 29, 1903.

Located in Southern Cayuga Co., N. Y. This spring has been the driest one known here for many years. Spring grain has suffered as a consequence. Corn ground plowed very hard. Some corn that has been planted two or three weeks has not come up yet. We had rain here the night of the 11th, which continued for 21 hours and are now having showers. Old pastures are in bad condition and cows are shrinking in the flow of milk. Hired help is scarce and demand high wages. Everything in the line of feed is high in price. Hay is bringing $20 per ton. We have good schools and churches, also two flourishing Granges in our community. Success to the P. F. CHARLES HUFF.
R 5, Moravia, N. Y., June 30, 1903.

Farm work somewhat backward on account of heavy rains. Grain crop has been harvested; moderate crop; cotton has been chopped and hoed second time. The recent rains have greatly damaged the crops. In hilly portions the land has been washed very badly. A heavy hail storm visited us a short time ago and devastated crops greatly in some sections. Corn is fine; cotton is small, but healthy. Late observations show that a full crop of cotton is unlikely. The price of cotton is very encouraging, being 12c. for middling. Prices of provisions continue same. ROBT. M. HITT.
Montmorenci, S. C., June 29, 1903.

Twenty-six miles from Memphis, Tenn. Principal crops are cotton for market and corn for home consumption. Crop about 70 as compared with last year. Corn worth 75c. per bu.; meat, 12½c. per lb.; flour, $5.50 per barrel; labor, $1 per day in cotton fields, and scarce; butter, 20c. per lb.; eggs, 15c. per doz. Only about 18 per cent. of the land in this county is under cultivation. Land, unimproved, is worth $5 per acre; no improved land for sale. E. C. PITTMAN.
Poindexter, Ark., June 27, 1903.

Located 11 miles northwest of Pittsboro, in Alamance Co. Farmers are pleased with the prospect of a railroad; has been surveyed, starting from the Gulf, running up Haw River to Greensboro. Harvest is over; wheat very light; corn looking very well. Cotton is behind. Had a nice rain. Prices are about as follows: Horses, $50 to $125; mules, $50 to $150; milch cows, $15 to $35 each; corn, 60c.; wheat, 75c.; onions, 80c. per bu.; pork, 8c.; bacon, 13 to 15c.; butter, 20c.; chickens, 20c. per lb. OSCAR ANDREWS.
Mandale, N. C., June 29, 1903.

Located in North Middle Tennessee, in Robertson Co. Good stock country. Also noted for its dark exporting type of tobacco. Corn, wheat, potatoes, peas, beans, clover and grasses do well here. Plenty of stock water; grazing can be had for stock 8 months out of 12. Land sells for from $8 to $40 per acre. Have R. F. D. and telephones. The L. & N. R. R. is carrying on extensive improvements in this county. Cattle, 3c.; hogs, 5c. per lb.; hands, $10 to $13 per month. G. M. PARDUE.
Sadlersville, Tenn., June 29, 1903.

Located in the town of Polo Pinto, Tex., west of Brazos River. Prospects for good crops of corn and cotton. Soil moist and mellow. Wheat is now being harvested; will yield 25 to 30 bu. per acre throughout the entire county. Produce is worth as follows: Eggs, 15c. per doz.; butter, 20c. per lb.; corn, $1; wheat, 80c.; oats, 40c. per bu.; hay, $8 to $10 per ton; cattle, $8 to $12 per head; hogs, 6c. per lb., gross; horses, $35 to $75; mules, $75 to $100 per head. We have good many deer on the Cedar Range of Mts. in this county. Lots of sport hunting them during the winter months; is against the law to kill them through the summer. We appreciate the P. F. and think it an up-to-date paper in every respect. C. V. WHATLEY.
Polo Pinto, Tex., June 25, 1903.

Located in the northern part of Boone Co., 132 miles from St. Louis, and 145 miles from Kansas City. Our situation and adaptability make this a fine stock country. Owing to the cool and excessive wet weather crops are in poor condition. Pastures are good and hay will be, if it can be saved. Land changing owners at from $25 to $50 per acre. Horses high and scarce; cattle, 4 to 5c.; hogs, 5¼c. per lb.; hay, $4.50 to $5 per ton; corn, 40c. per bu.; not much oats or wheat grown here. E. E. SEYMOUR.
Sturgeon, Mo., June 27, 1903.

Pope Valley is located in the northern part of Napa Co., about 2 miles from the summer resort, Aetna Springs. There are four quicksilver mines within 10 miles of here. A good, healthful climate. A fair crop of grapes and some fruit. Nearest railroad is 15 miles away. We have not had any rain since the last of March, which is very unusual here. The dry weather considerably lessened the hay crop. Prices as follows: Hay, $10 to $12 per ton; chickens, $5 to $6 per doz.; horses, $50 to $150 each; land, $5 to $100 per acre; eggs, 20c. per doz.; meat, dressed, 8 to 12c. per lb. The valley is thickly settled to be a farming region. There are four schools, two postoffices and one church. Many mineral springs around. JASPER MARTINELLI.
Pope Valley, Cal., June 24, 1903.

As the harvest is over I wish to give you a report from this section. In answering the Agricultural Dept. at Washington, we make 100 stand for full crop. Wheat is 110; oats, 100; corn late planted, but is looking well; hay crop short, 65; pasture 80; all spring crops 100 in area and condition; horse condition 110, owing to wet weather and little work; cattle 100; sheep 100; great loss of hogs by plague or cholera leaves 40 per cent.; poultry 100; vegetables, beans, beets, cabbage and potatoes 125; fruit prospects, apples 60; peaches 0; cherries and pears 75; strawberries, 50; blackberries and raspberries, 100. Very much rain just now. J. H. DUBLE.
Wickliffe, Va., June 29, 1903.

Eight miles northeast of Stanton the county seat of Montcalm Co., and 40 miles northeast of Grand Rapids. Most kinds of grain are raised here to some extent, but the main money crop is potatoes, this being an ideal location for raising them, both as to quantity and quality. Have had a great deal of rain and cold, backward weather in June, and nearly all work somewhat behind. Haying will begin soon and the crop promises to be large; corn is rather small, but with warm weather from now on, with good cultivation, will make a good crop. A good deal of the land here is new and thickly covered with pine stumps, but the stump machine is visible everywhere and the stumps are rapidly disappearing, or rather going into fences. Farm help scarce and many men looking vainly for work in the factories of the cities. Prices: Wheat, 70 to 74c.; beans, $1.50 to $2; potatoes, 60 to 70c. per bu.; butter, 15c. per lb.; eggs, 13 to 15c. per doz.; horses high and scarce; cows, $35 up each; hogs, dressed, $7 per cwt. Markets good for all kinds of produce. EDWIN HUNT.
McBrides, Mich., June 29, 1903.

In this part of Aroostook Co. considerable rain has fallen since June 11, but hay will be only half a crop. Potatoes are coming up well; never looked better at this time of year. Hoeing is well begun. Field strawberries are a failure, the long drought and the many frosts we had this spring being the cause. Cultivated berries are giving promise of a good crop. Apple crop it is thought will be light. Gardens almost a failure. Corn rotted in the hill. MRS. IDA NASON.
Presque Isle, Me., June 29, 1903.

Located in Sussex Co., 4 miles from Delaware Bay, from which we can get plenty of fish, oysters, clams and crabs. Having wet weather at present. Corn late. Farmers busy harvesting their wheat. There will not be many peaches or apples from this section. There will be a full crop of Lucretia dewberries. Considerable sweet potatoes put out this year; also thousands of acres of tomatoes set out. More cow peas sowed every year. We have fine schools and churches and a mild, healthful climate. Farmers are setting out a good many peach trees. Not as many canteloupes planted as last year. White potatoes are looking well. Help scarce; wages from $10 to $15 per month and a horse kept. We have mostly good roads. Prospects look well for good crops this year. Strawberries were a failure on account of drought this spring. Prices are as follows: Wheat, 80c.; corn, 50c.; scarlet clover seed $3; cow peas, $1.40; potatoes, new, $1. per bu.; butter, 15 to 20c. per lb.; eggs, 16c. per doz. May the P. F. live and prosper forever. W. S. WATKINS.
Milford, Del., June 29, 1903.

◆

B. B. & B.—Some time ago the manufacturer of the celebrated poultry food, "B. B. & B.," Mr. D. W. Romaine, lost his entire factory by fire, which for the time being stopped shipments of that product, and later difficulty in getting a good quality of the food made temporarily elsewhere. Mr. R. now has a new factory in running order, and is in a position to fill orders with the best grade of goods he has yet made. Those of our friends who order "B. B. & B." may be sure of getting a very superior grade. With his better facilities and improved machinery Mr. Romaine will add to the excellent reputation which "B. B. & B." enjoys among poultry raisers. It is indispensable to those who would make the largest profit possible from their poultry. Write D. W. Romaine, 124 Warren St., New York City, for circulars and prices, mentioning the P. F.

FORAGE
FOR LATE SUMMER AND AUTUMN.

I cannot too strongly urge upon farmers the importance of sowing some cow peas or soy beans during the month of July. If the ground be properly fertilized there will be a fine growth of valuable forage before the coming of frost. This forage can be fed green or cured for hay.

COW PEAS

and soy (or soja) beans are highly nutritious, being fully equal to clover for producing milk or making flesh. They are leguminous or nitrogen-collecting plants, leaving the soil richer than they found it. They need a fertilizer containing phosphoric acid and potash, and such a fertilizer costs but little money. Cow peas and soy beans will pay handsomely, whether fed green or made into hay or plowed under for green manuring purposes.

Whip-poor-will Cow Pea. I especially recommend this variety for the North. It is a quick-maturing bush sort.

Black Cow Pea is a trailer, but it matures so quickly that it may be planted North or South.

Wonderful (same as Unknown). I recommend for the South. It is a trailer, yielding an enormous amount of fodder, but not maturing as quickly as others.

Price of either of the cow peas, per peck, 60 cents; per bushel, $2.25.

SOY BEANS

are quite as valuable in all respects as cow peas, and may be treated in the same manner, using the same amount of seed per acre. I sell a strong-growing, upright or bush sort which makes a quick growth.

Price of soja or soy bean, per peck, 75 cents; per bushel, $2.50.

Sow broadcast or in rows; 1½ bushels broadcast or 1 bushel per acre if sown in rows 3 feet apart. Sow before end of July, the earlier the better.

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for your investment, but a greater profit than you can make on your money in any other legitimate business. We can't take space to explain in full here, but will send you our book, "The Great Fortunes Made from Gold Mining," and explain the plan in full, if you send us your name and address.

The Central Gold and Copper Co. owns four of the finest and richest properties in Gold Camp, New Mexico. A few thousand dollars more spent on the property will bring it to the producing and dividend paying stage and make the stock very valuable. We only propose to admit a few to the fabulous profits of this great enterprise, and we propose to

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Don't wait a day, for this almost unheard of proposition will not remain open long. The best people in Philadelphia, merchants, teachers, lawyers, doctors, ministers, those who know the great value of the Central property and the high character of the business men composing the Board of Directors, are buying the stock rapidly under this special guarantee. You have a chance now to lay the foundation for a fortune without risk. We also have a plan by which you can secure an interest in this company without investing a cent.

Write to-day for the book and full particulars. Price of stock is low now but will advance rapidly.

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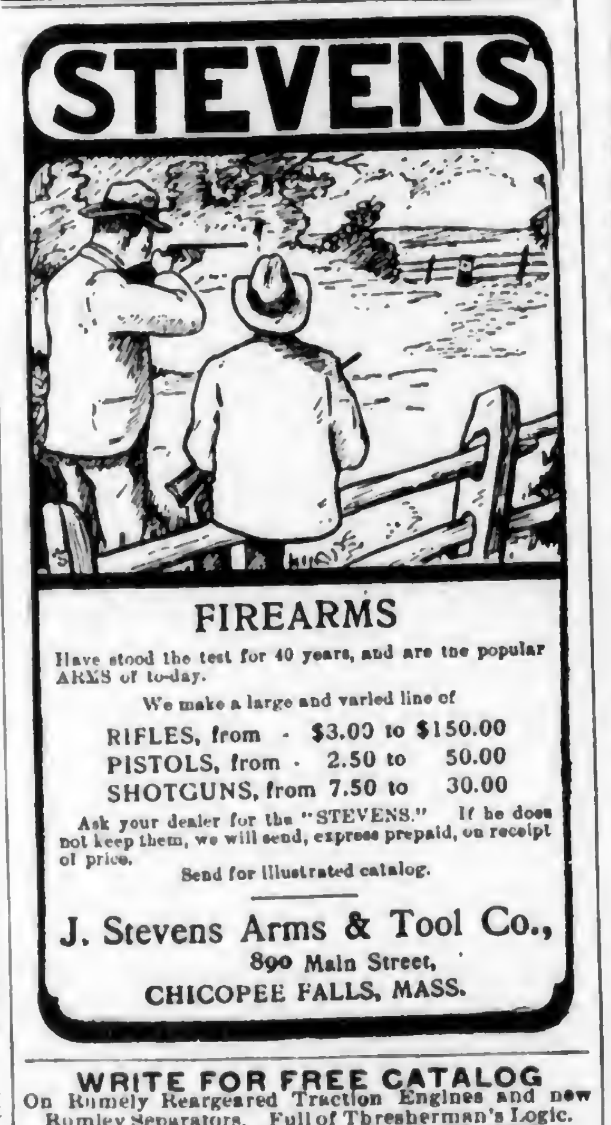
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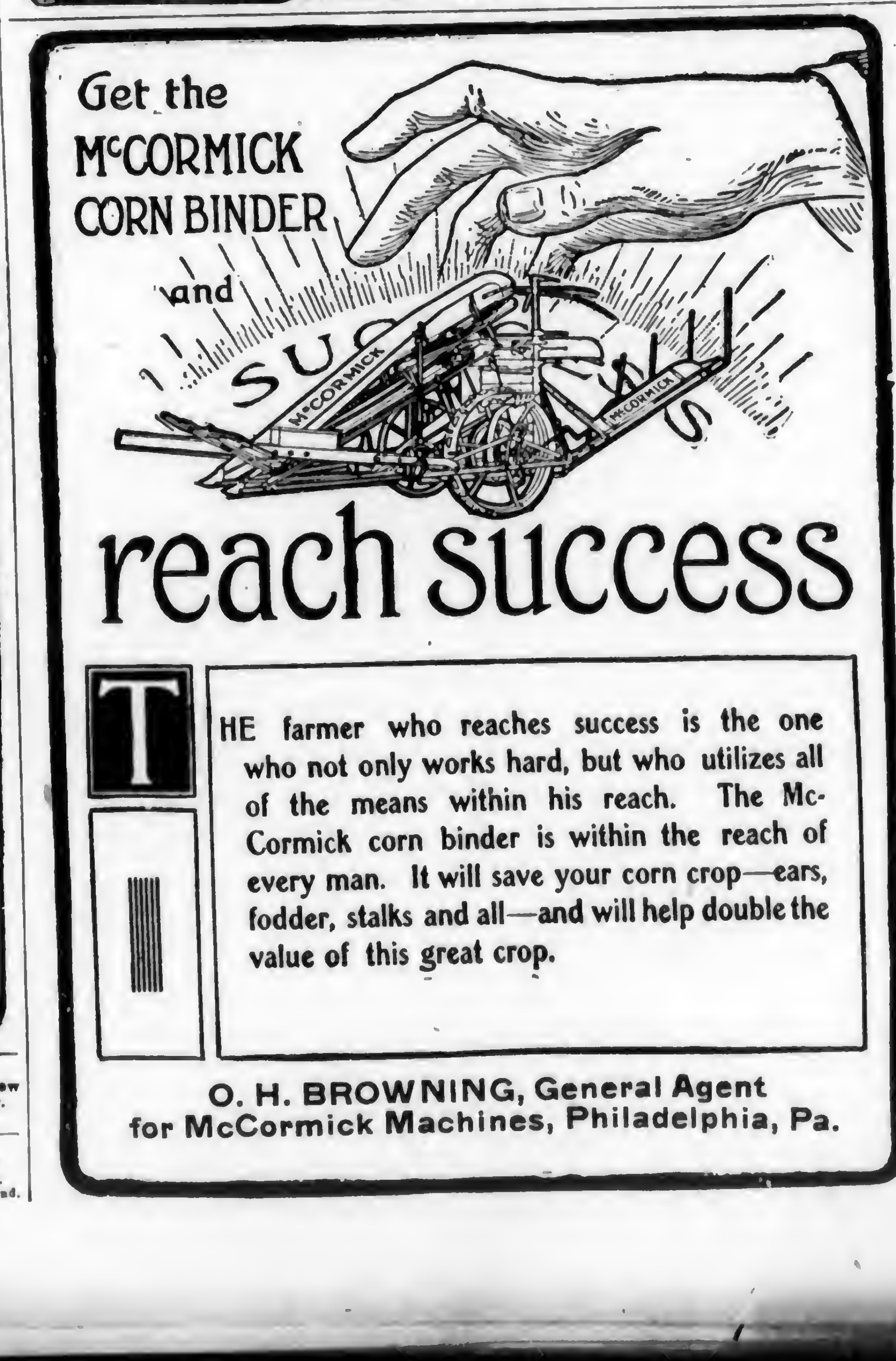
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THE farmer who reaches success is the one who not only works hard, but who utilizes all of the means within his reach. The McCormick corn binder is within the reach of every man. It will save your corn crop—ears, fodder, stalks and all—and will help double the value of this great crop.

O. H. BROWNING, General Agent
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THE PRACTICAL FARMER.

Vol. 87. No. 3. Philadelphia, July 18, 1903. Price, 5 Cents. {$1 per Year in Advance

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SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Management of Stable and Yard Manure.

J. N. Johnson, Mahill, N. Mex., writes the P. F. as follows: "Kindly advise me about the handling of manure. I have no shelter for it. It was scattered over the yard and seemed hard and dry. I piled it and now (April 25th) it is getting hot. Is it necessary to have shelter for manure? If it is kept in an open yard should it be piled as it accumulates? I am taking the P. F. to learn the best ways of doing." It is not necessary to have shelter for stable manure to save it in the yard reasonably well. Where one does not wish to draw manure out daily, however, and particularly in a wet climate, the manure that a roof would save from leaching out, no matter how well it was piled, would doubtless pay a fair interest on the cost of the shed. And then it would save much work in piling the manure with care to prevent leaching. And, as you were told in a recent article, the shed will protect man and beast from winter storms and be handy also for summer use. Take it all around, a manure shed is a fine thing for one keeping stock and wishing to hold manure over. But it is not a necessity. Manure loses value in two ways. One is by leaching, the other by heating. Manure scattered over a yard thinly may lose half its value, more or less, when there is much rain. When a yard is on a side hill, or on land where water will soak down, the loss will be greatest. On level clay land it will be the least. The water in passing through the manure takes up the soluble portions and they go away with it, over the surface, or down into the earth. When manure is piled, heating is likely to take place. Unless it is properly controlled this may cause serious loss of the most valuable element in the manure. There are 3 particularly valuable ingredients in farm manure. They are nitrogen, phosphoric acid and potash. Rain may leach out all 3 of these. Heating causes a loss of but one, nitrogen. But nitrogen is worth about 3 times as much per pound as either of the other 2 ingredients.

Now, to prevent serious loss to stable manure that you put out in an open yard, pile it away from the eaves of the buildings, and from where surface water will flow by it. Keep the pile as perpendicular as you can at the sides. Clean up the loose manure around the edges when there is prospect of rain. When a pile is 3 or 4 feet deep, the rain that falls on it will not be likely to leach through very much, where plenty of straw was used for absorbent. All this is common sense, you see. Manure loses by leaching; keep it at all times so it will leach out as little as possible. But now, if the animals are well fed, and particularly in mild weather, manure thrown loosely in a pile will soon heat, that is begin to decay. Horse manure will heat badly, almost burn up. The best way to handle the horse manure, usually, is to scatter it in thin layers over the cattle manure, which does not heat so readily. I used to wheel it to the pile for this purpose before we had a manure shed. Now, there are two ways of keeping manure from heating excessively. One is by tramping, which excludes the air, the other by keeping it quite wet. If manure is packed tightly enough, when in a wet condition, no heating practically will take place. It cannot heat without air. This gets into loose manure freely, but not into that which is solidly packed or tramped. The best way to pack a pile in the yard is to put in rubbing posts for the stock, several of them scattered over the top of the pile. They will go straight for these posts, when let out, if there are no others in the yard, and particularly when they are well fed. In this way you will get your pile tramped pretty well. I have often seen about as many cows on the pile as could well stand there, waiting their turn and moving around. Probably they would not do this if they knew you wanted them to, but they do not. They will tear down the sides considerably, but you can keep watch and shovel the loose manure up on top before a rain, as the writer has many a time. Where cement floors are used, so the manure goes out dripping wet, and the horse manure is mixed with the other, no water need be put on the pile. The tramping, with what rain falls on it, will be all sufficient. I am sure of this as I have piled hundreds of loads. At that time we did not have cement floors, but we did have water-tight ones, made of boards and gas tar. And I am sure there is no loss of nitrogen, practically, as I have most carefully tested the matter time and again. The nitrogen does not escape directly into the air. The heating changes it into ammonia, a gas, which readily goes upwards, unless there is some absorbent present that will catch it. Land plaster or acid phosphate scattered over the heap, or in the stable (particularly where horses are kept), will stop any loss in this line, if the manure is wet. A little soil put over a heap will do good. It is well to cover a heap that is to stand through the season with the earth in the spring, as soon as you are through adding to it. Muck is best for this purpose, if you have it. With proper management the heap will decay slowly and be in fair shape to use for top dressing in the fall. Land plaster and earth will absorb, practically, the small amount of ammonia that may be set free by the decay. Writers often advise the taking of horse manure to the cow stable and using it in the trenches for absorbent. This shows that they have floors that leak under their horses. With cement floors, horses will wet the manure and bedding about as much as cows do, and there will be no gain in handling the horse manure twice. This liquid dropped in the horse stable is very valuable, being worth far more than the solid, pound for pound. No good farmer can afford to lose it; and still many do, even where fertilizers are bought. But now, what shall be done with manure where stock are fed in yards, as they are in many sections? First of all, do not use a yard on a side hill, sloping down into a ravine, so all wash will run away. I have seen hundreds of yards so situated. I suppose it was done because the land would be better drained, and perhaps there was water at the lower edge. Serious loss to the fertility of the farm comes in this way. The profits on many a farm have gone down stream. A level feeding yard will save manure much better and particularly if the subsoil is clay. Then use straw very freely at first to keep the stock out of the mud, or so there will be no mud. Then make the yard as small as will answer. The smaller the yard, you see, the less rain falls on a ton of manure. If the cattle have no horns, quite a small yard will answer. The deeper the manure the less the loss. In this case there will be no trouble about heating, but there will be some loss from leaching, except in sections where little rain falls during the feeding season, as is the case in the Northwest. Now, just as soon as one is through feeding in the open yard he should pile the manure. I would have a boy ride a horse around on the pile and pack it as the manure was put on, and the manure should be piled when wet. Then cover all over with earth. The loss that would otherwise take place during the summer can mostly be prevented. Of course, where feeding is done in yards the manure cannot be piled daily to advantage, nor can it be drawn out onto the fields. In some cases it might in the spring be put on land that was to be plowed for corn.

Health Hints.—The Great Causes of Ill Health, of not Feeling First Rate.—To sum up the article of last week, let us suppose we do eat too much. We coax the appetite with dainty but unnatural dishes. And then we eat more or less of improper food. We rush food down in a hurry without taking time to mix it thoroughly with the saliva. This is unnatural again. After a time there is likely to be some trouble in the stomach. We call it indigestion. There is more food than the digestive juices can manage, because we have tempted the appetite beyond nature's needs. The food is slow getting out of the stomach. Before it is out we put in more. We think we are hungry because there is an unsatisfied feeling there. Sometimes the contents of the stomach may ferment and come out the way they went in, making us pretty sick. Or the stomach may get along with it after a fashion and the fermentation take place in the alimentary canal. The food not digested becomes simply a rotting mass of foul-smelling filth, from which gases are generated, to the inconvenience of the bowels. Nature in her efforts to save life, in some cases absorbs this poison into the system. Then more serious troubles than were mentioned last week may ensue, even to the causing of sudden death. Deceiving names are usually given to these troubles, but the simple cause is too much, or improper, food passing through the body. This is the direct cause of a large number of cases of ill health. If we add the breathing of impure air, and shallow breathing, we may safely say that the two together cause by far the larger part of all the sickness in the world. Just think a moment. Nearly one-third of all the people who died in the U. S. between 1890 and 1900 were carried off by lung troubles, and, as a rule, prematurely. Attention to the above matters would prevent such deaths, almost without exception. Many letters have told of troubles that were known to come from indigestion. Oftentimes this was the cause where it was not known. For this reason much attention has been given to this subject lately. It is a vitally important matter, so is the breathing of pure air, and more of it than many people take. Too much attention cannot be given to this point.

Not long ago the Youth's Companion said, in substance, under the heading of "Summer Hygiene": "Summer has one great advantage, whether in city or country. One may, if he will, live practically in the open air. Windows may all be kept open the 24 hours around, excepting during driving storms. Beds may be so arranged in the house that to all intents the occupants sleep out of doors, no matter whether they are rich or poor. Thus summer may be made the season for physical regeneration." To all of which I heartily agree. It is just what we believe in and practice and have been preaching to you, both in season and out of season, because it is so important. Have you made any of the changes I have suggested? Are you sure the air in every room in your home, particularly the bed rooms, is practically as pure as out of doors? It ought to be. It may be without much trouble. P. Von Boeckmann, respiratory specialist of New York, says: "Breathing impure, or stagnant, air and eating good food, as well as taking good care of yourself otherwise, will likely produce disease in time; poor food and good air is not necessarily so dangerous." Since writing my last on this subject I have bought new plated wire cloth for our five outside screen doors down stairs and put it on. This wire is very fine and plated, or galvanized, so it is claimed that it will not rust. Thus one does not need to paint it. We bought it last summer for the screens in garret, and second floor bed rooms. It seems all right so far and we like it very much. The great advantage is, the wire does not have to be painted to keep it from rusting. Painted screens do not let air through as freely, as dust sticks to them more or less. When it was still and very warm no air seemed to come through. With this plated wire we get air in very much more freely, so much so that we decided to put it on all doors below. It cost 4 cents a square foot, about twice the price of painted wire cloth, but it is dirt cheap, because it helps us to keep the air in the house practically as pure as that out of doors is. Remember we have screens in bed room windows the entire size of the openings, 2½x6 feet. The screened garret windows allow heated air to go out, and thus fresh air is drawn in below. At another time the matter of breathing more of this pure air, when we get it all around us, will be taken up. At present the writer is full of business, arranging to have the air in every room in the house as pure next winter as it is now, and warmed, too. There is no need of summer being the only season for physical regeneration. Winter can be made better, because cold air is more bracing. And, notice now, my dear friends, I propose to do this in a way that is not beyond the reach of most of you. I intend to extract more degrees of heat from the coal than were ever taken out before in any home. Thus out of door air can be warmed perhaps at no more cost than most people expend and still have impure air.

And this reminds that a noted furnace manufacturer recently wrote me a decidedly strong letter. The substance was that taking air from the floor back through the furnace purified it and gave perfect ventilation; that the matter was merely one of opinion anyway, and as they had put in thousands of furnaces their opinion was worth far more than mine. Well, absolute ignorance is bliss for this furnace man, but it is death for many of the people who trust in him. "Merely a matter of opinion" is it? Think you the P. F employs men who have to guess about vital matters? Allow me to say that I have one of Dr. Wolpert's celebrated carbacidometers, and can tell precisely the condition of the air in any room at any time; just how much carbonic acid there is in it. More, I can take a sample of air in any place, on the quiet, and carry it home and test it. And further, I shall work for the people, for the truth, for better health, for fewer untimely deaths.

T. B. Terry.

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How Cotton is Grown in Mississippi Delta.

P. C. MITCHELL.

We planters of the rich Mississippi Delta all have very nearly the same rules, with but few exceptions. I will first tell you how we contract with our labor. There are four ways we work them; of course nearly all of the labor is negro. First, we work on the fourth; that is, one-fourth of the cotton and seed goes to the land owner for rent, the tenant to furnish his own team and tools, and feed his team and himself. Second, for a stipulated amount of cotton per acre, never under 70 pounds and rarely over 100 per acre, the tenant to furnish team, etc., as in the fourth. Third, is known as working on shares, or the half; the land owner furnishes team and tools, sharpens tools and feeds team; the tenant feeds himself and gives one-half of his crop for the use of team, tools and land. Fourth, is lease. That is when the land has been deadened and is ready to be put in cultivation, the land owner will give from three to five years free of rent to get it put in cultivation, the lessee to furnish his team and tools and agree to put in 20 acres to the house, the land owner to build the house and drive a pump. As only about one-quarter of the negroes own their team, we have to rent them mules when they want to work a lease on the fourth or rent for cotton. Some planters rent for money, others for cotton. As a rule, 450 pounds of lint cotton is the rent. A rented mule will live from three to five years, so you do not make much interest on your money renting mules to negroes; only one in a great number will feed a mule, and they will plow him all day and ride 15 or 20 miles at night to some church or saloon, and then wonder why the mule will not stay fat. We have two kinds of land here, black loam and buckshot. The former is very easy to work and is very productive, often making 800 pounds of lint cotton per acre, and will make from 25 to 75 bushels of corn per acre, according to the weather and amount of work it gets. After working it 20 or 25 years in cotton without changing to corn, it gets thin and will not make over 300 pounds of lint cotton per acre. Plant it in cow peas one year, or in corn and peas, and you have the new land again; it seldom takes the second crop of peas to make it as good as any new land; in fact, on most of it, if you will put three good mules to a plow and break it deep, you will not need the peas. One man can work about 10 acres of this land in cotton, but most negroes have a wife and some children to help, and work from 15 to 25 acres; one mule can work 25 acres very easily when properly fed. As a rule, 20 acres to the family, 4 in corn and 16 in cotton; he will make from 12 to 18 bales and our bales average about 600 pounds.

Most crops of cotton have to be plowed about four times and hoed about three times; sometimes not so much and some years more. A good hoe hand can hoe one to one and a half acres a day, and do very good work. This is the easiest part of the business, and the simplest, as the only object in working cotton is to keep it clean and a little loose dirt around the roots without skinning the plants. It is hard to get the negroes to thin it out right; one stalk in a hill and from 18 to 24 inches apart is about right on thin land. The rows should be about 36 inches, but on rich land like our Delta lands, from 4 to 6 feet is close enough; try to fix mine so the cotton limbs will lap in middles when it gets 5 feet high, or as near that as possible, so it will not blow over and rot so badly. We lay our cotton by in July, and some years it is August. Then the men cut cordwood to run the gin with; about one cord to three bales of cotton is the rule with some thrown in for fear of being short of wood in winter. It is time to go to picking cotton by the time your wood is cut, and that is when the trouble begins. Every man, woman and child that is able to go to the field picks cotton. It is nice, clean, light work, but so monotonous, and it is hard to get the negroes to do what they can at it. They will often run off and leave their crops in the field, even when they would make $100 or $200 clear if they picked it. Then the planter has to hire that crop picked. Pay from 50 to 60 cents per hundred in the seed for picking; a good picker can pick from 200 to 250 pounds in a day, so the cotton pickers get a good per cent. of that crop. We furnish the negroes their supplies at credit prices and make a good profit on our goods, so at the end of the year we try to have our rents clear; sometimes we fall and sometimes we make more, according to the price of cotton and the year. That is, if it is a short crop year or a big one. But we never get to be millionaires, and none go to the poorhouse. And I will say that I do not know a farmer in the county that cannot order by letter or telephone from $500 to $5,000 worth of goods from Vicksburg or Memphis and get them on 30 or even 90 days if he wants it. Most of the planters here work from one-third to one-half of their lands; the rest is in woods and is being gradually cleared up and put in cultivation. Open land is worth from $40 to $60 per acre, and woodland from $5 to $20, according to location and the kind of timber there is on it. The steamboats do all of the freight handling along the river, and the Y. M. V. R R. is only nine or ten miles back of the river. I never saw a manure spreader, and never will in this county. Peas do the work here, and we get most of the vines for hay. Hogs do well here with but little feed except what they get in the woods. Cattle stay fat on Bermuda grass in spring and summer and in the cane brakes in winter. Never house or feed them. Our farms are from 1,000 to 3,000 acres and often are 5,000 acres.

Tallau, Miss.

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Getting Posted.

H. W. JONES.

Farmers know pretty well how to grow crops, but they do not always know to sell them to best advantage. Every farmer who ever has occasion to send anything to market for sale, should get in touch with some trusty and stirring commission merchant, and consign all his produce to his care. But how to find the really efficient and honest merchant is the question. It takes an active, industrious man, well acquainted with his town, to make sales of produce to the interest of the grower. One such man, once found, should be held to and encouraged to the full extent of the farmer's ability. If you have yet to find your man, go first to your local banker, who can give you the rating of any merchant in the city where you wish to do business. If you have no local bank, ask a country merchant near you for the address you want. Then write to the party recommended, asking him for the names of several farmers of your county for whom he does business. If he can give you names of men that you know, it will show that he is giving some of your neighbors satisfaction. Then go to see these men, and ask them all you want to know about the said merchant. Another thing the farmer should be thoroughly familiar with is the current report of prices, as it comes to him each week in his farm paper. Every farmer's paper worthy the name makes a point now of giving a pretty full account of the ruling prices for all kinds of produce. The market report of the P. F. is an excellent one, well arranged, and doubtless as near correct as practicable to have it. To any farmer who sells his produce in the cities named, this report cannot but be of immense value. Let all scan it very carefully week by week, and compare it with letters and returns from his commission man. But there is yet one other thing that farmers must do, to get and keep thoroughly informed on the market. And that is, have a home 'phone, and keep in close communication with their commission men. There are several competing 'phones now, and the annual cost is not great. All country merchants have their 'phones, and keep well up with the run of trade of everything in their line. The farmer must do the same. He will be forced to do so, before very long, if he hopes to keep up with the times. The farmer cannot too soon place himself right in the marts of trade. If he does not he can never know whether he gets all that he ought to be paid for any article that he sells. The commission merchant is the farmer's middleman, and he is a necessity, often doing better for the farmer than the farmer could do himself.

Oldenwood Farm, Va.

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Learn from Others.

F. W. HUTCHINS.

It is the wise farmer that changes his methods from the old slipshod, happy-go-lucky way to the improved methods of the thinking and progressive tillers of the soil. Many fail to change because they see nothing better than their own and consequently have no opportunity to learn from the more progressive ones. All of their neighbors seem alike, each following the footsteps of their fathers. There is a class of farmers that would quickly grasp the opportunity to better their methods if they only had it, but they know nothing of farm papers or books and have been taught that book farming was a farce, consequently have no means of learning from the successful ones how they have put to such practical good the things they have learned. The only course open to the majority of the farmers to learn from others, is through the agricultural press and books. Whenever one reads in the P. F. of someone having become a better farmer he will also read that he became so by reading the P. F. or some other good farm paper, and put into practice the teachings of others who have learned and practiced better methods and give the results of their experience in the agricultural press. I have in mind a party who learned a good lesson in the P F., and that was with clover. Had good catches of clover, usually, on good land, but it was a rarity to cut any hay. Allowed it to be grazed after cutting the wheat, leaving no covering for the winter. Read the P. F. last year and decided to try its teachings of keeping stock off the first year, with the result that with the poorest catch he had the finest clover that had been seen there for years. It paid to read and learn and make hay enough to pay for the P. F. for many years. One can learn, in time, many things by practical experience, but it takes too long and there will be too many mistakes to rectify, and that takes time, but if he will read of the mistakes and successes of others he can learn in a short time what would often take him years to learn. There is one thing that I could have learned in an hour that took me years of practical experience to learn, and I could have saved hundreds of dollars by knowing it. It is the same with farming, one must learn from others all that it is possible. To the thinking farmer there is no better investment than that which goes into agricultural books and papers. Some will say they cannot farm by books and papers, and claim that they are intended for the rich, but it is the poor man that cannot afford to be without them, for he is the man that actually needs them. To those who have been taking the P. F. for a short time and have gotten a thirst for more good things, I would suggest that they invest in some, if not all, of the good books that the P. F offers for sale. Those who wish to learn, and most of them claim that, will find instructive, entertaining and profitable reading in Terry's "Our Farming," and it will make him open his eyes and wonder if he has been only dreaming that he was farming, and will then and there resolve to improve his methods and show his neighbors that book farming can and does pay. He then wants to read and study Massey's "Crop Growing and Crop Feeding," to learn how to find out what his land needs and the best way to get the desired result in the shortest time. It teaches the needs of all money crops in every section, in a plain and easily understood way. It is a book that no farmer can afford to be without. It will teach how to save many dollars that now go to the Fertilizer Trust. The book of "Short Cuts" will put into his hands a fund of information concerning the easy and quick way of doing the hundreds of little things one should know how to do. He will find it will save him many times the cost of the book. "Farm Helps" is a good second to "Short Cuts," for he would not like to part with either after getting them. In the two books, "Practical Farm Experience," Nos. 1 and 2, he will find the experience of many farmers from many States, giving their ways of doing things pertaining to every branch of the farm work, and it is information that is most lasting in its effects, and will pay a handsome interest on the investment. While providing for yourself the good things above mentioned do not forget the ladies, but get them the "Household Guide," so as to give them some assistance in their undertakings. Also place in their hands "Short Cuts" and "Farm Helps," for they will find many things pertaining to their labors which will materially assist them. The above recommendation does not benefit me one cent, directly or indirectly, but is written for those who wish to learn and to tell them where they can look for information on most anything governing farm work. The mere fact of reading farm books and papers does not make the man any better farmer unless he intelligently applies the information gained. What he reads is often not applicable to him, but it gives him ideas in the same direction that he can put into good and profitable use. There are certain principles that are taught by the up-to-date farmers, such as deep plowing and shallow cultivation to stop evaporation, getting the seed bed thoroughly prepared, that holds good throughout the land. Some claim they have no time for reading, but there is always time in winter to read and plan for a more vigorous campaign the coming season, and with improved ideas. Granted that they consume a little time in reading, they will handsomely make up the time with better returns if they apply their knowledge. Go to the Institutes, and hear the men selected to tell you how you can better your condition. The speakers are men who have put theory to a practical and profitable test and are willing to tell you how you can do so. With such a paper as the P. F. you have an Institute every week and can always glean some information from its pages. It extends a farmer's very limited acquaintance to the whole P. F. family, and long may it live and extend the good work it is now doing.

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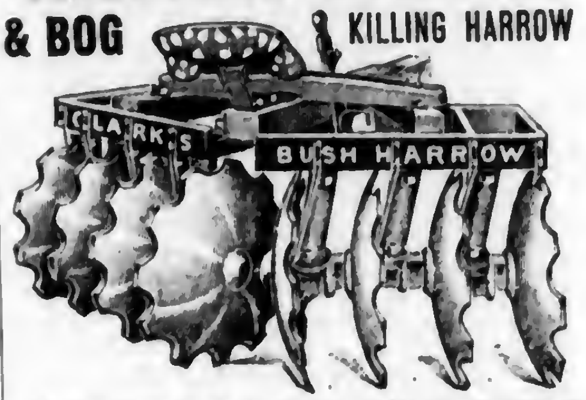

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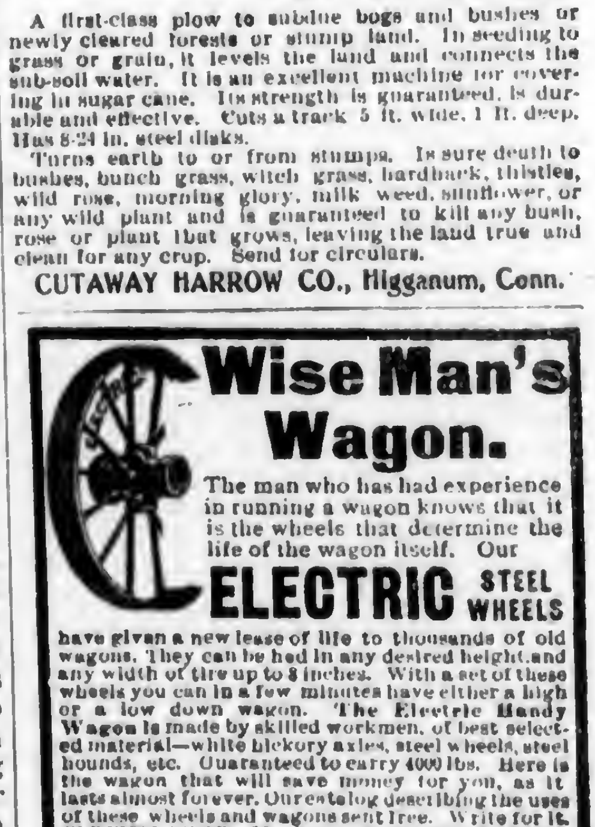

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Sassafras Sprouts, — J. H. Sprinkle, Sprinkle, N. C. — "I have eight acres grown up in sassafras sprouts, the land having lain idle since last year. Please tell me when is the best time to kill them and how?" There is no way in which one can all at once get rid of sprouts like sassafras and persimmon unless it was possible to get every particle of root out of the land, for every cut piece of root is the starting point for a new plant, the roots of these trees having a plentiful supply of adventitious buds. Therefore grubbing at any time will only increase the trouble. But no plant roots can grow without leaves above the ground. The best thing you can now do will be to cut off the tops at the surface of the ground, and when fresh sprouts start run the mower over the land. In the early fall, say September, break the land deeply and get out all the roots you can and burn them. Seed the land to wheat and hairy vetch for hay, using one bushel of wheat and 25 pounds of vetch. Sow the vetch seed first and then drill the wheat, as it is hard to keep them mixed in the drill, the vetch being heavier than the wheat. If the land is not rich, give the crop a dressing of a complete fertilizer. Cut for hay as soon as the wheat is in the milk. Then at once re-plow the land and sow to cow peas. Cut these for hay, and seed again to vetch, and no wheat, but let the vetch this time mature seed and then turn it under for corn, and by this time you will find few sassafras sprouts. There is nothing like forage crops and the mowing machine to keep down sprouts, and when you have let a crop of vetch seed on the land you will have it there every fall and can cut it every spring or turn for some other crop in the cool weather of spring.

Improving a Pennsylvania Farm,— P. M., Host, Pa.—"I wish to lay out a farm of 95 acres to the best advantage. Twenty acres is meadow, 70 tillable, and 5 orchard, etc. Soil limestone, with clay subsoil, somewhat run down from poor management. Want to run a dairy of 30 cows and raise heifers from pure bred sires, removing those the scales and Babcock test do not show to be paying. We are following Mr. Terry in keeping cows off the tillable land and cementing stables to save manure, and want to bring the farm back to its original fertility. Would the following rotation improve the soil? Corn, wheat and grass. Clover always freezes out the second year, and I thought that a three year rotation would help save some of the precious clover. Farm now in six fields, corn, oats, two fields in wheat and two in grass. Will be pleased to have the advice of the P. F., and hope it may help someone else at same time." You will certainly be right in adopting the three year rotation. But in such a rotation we would use the clover alone, and grow our grass on the meadow land alone. Use a light dressing of lime on the clover the next season after sowing until you give the whole place a dressing of lime once in each second round of the rotation, that is every six years. On the wheat use a good application of acid phosphate and potash, say 300 pounds per acre of acid phosphate and 50 pounds of muriate of potash mixed. The shock rows in the corn field can be put in oats in the spring and clover sown with them about the same time you sow it on the wheat so as to get the whole field in clover. Then after harvest as soon as the rag weeds start, clip the stubble over with the mowing machine for the benefit of the clover. Mow two crops of clover the same season and then get out all the manure you can make on the sod during the fall and winter and plow under for corn. Carrying the stock you propose on a farm of that size you will have to buy a great deal of bran for the cows, and should make a large quantity of manure, and be able after a while to cover the entire corn tend with stable manure with a manure spreader. This rotation, using clover alone, should rapidly bring up the land into a more productive state if you feed everything grown on the farm, except the wheat, and it might pay to trade that for bran for the cows, and thus return everything of value to the soil. The cement floors are all right so far as saving the manure is concerned, but in our experience we found them bad for the cows slipping and falling on them. There is also danger that lying with udder touching the cold cement the cows may have trouble with the udder. We would always cover a cement floor with wooden slats and bed well.

Tomato Blight.—W. J. Field, Dade City, Fla. "Being for many years a reader of the P. F. I take the privilege to ask some questions about that dread disease the root knot in tomatoes. What are the conditions most conducive to its growth and spread? What are the most certain preventives? What could have been the cause for its striking a field of tomatoes planted on ground cleared in the spring of 1902, planted to sweet potatoes, fertilized with 1,200 pounds of high grade fertilizer, and then fertilized with the same amount and planted in Stone tomatoes? There was just one acre would have had 300 crates but for the root knot. Do sweet potatoes tend to produce the cause of the root knot? Many other readers are interested in this." I am not sure what disease it is that you call "root knot." There are a number of blights and other fungus troubles of the tomato one of which is bacterial in its nature and is known as "Southern blight." This is very troublesome here and makes the growing of tomatoes very uncertain in old gardens, since the soil gets infected. In this disease the plant suddenly collapses when the fruit is about half grown. There is another disease in Florida, which the Station there has studied, in which a minute fungus growth near the ground destroys the plants. This form can probably be controlled by regular spraying with Bordeaux mixture, and spraying should be done in any case to prevent the fruit rot. The only thing we have found to check the first named blight, and that but temporarily, is to lime the land well in the fall before the tomatoes are planted. But if the disease you mention is a knotty condition of the root, it may be caused by minute worms in the soil known as nematodes. These frequently attack the roots of the cow peas and many other plants, and about the only remedy is to starve them out by allowing nothing to grow on the land for a season. It is probable that your Experiment Station at Lake City, can give you more information in regard to this trouble than we can. Write to Dr. T. H. Taliaferro, Director of the Florida Experiment Station, Lake City, Fla., and if possible send him specimens of the diseased roots. The Experiment Stations are always ready and anxious to do all they can to assist the farmers in their States.

Sowing Wheat.—S. R. Wolfe, Kings Mountain, N. C.—"I have a field which was in wheat and was hurt by the fly. I now have most of it sown in peas. I want to sow to wheat again this fall. Will there be more danger from fly in this field than in the adjoining ones? I am advised not to sow it in wheat until cultivated again. The land is very thin, and my aim is to improve it by seeding to wheat and peas two years and then put it in corn. Can I sow crimson clover or rye with the peas to turn for corn, and get a stand? If the clover makes a rank growth how can I best prepare the land with one horse? Will it do to sow crimson clover among cotton in July or August? I want to graze hogs on it in spring until oats come in. When should hogs be turned on clover? What can I grow to graze hogs on in winter and early spring? What is your opinion of sowing oats in open furrow on hillsides where furrows cannot be run so as to avoid north and west winds." The chances are that if you sow that land in wheat again this fall you will have the fly worse than before, unless you make the sowing very late. If you do not intend to cut the peas we would sow crimson clover among them when they begin to shed their leaves, using 15 pounds of seed per acre. But it will be better to cut the peas for hay, and then apply 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre, and disk the stubble over and then sow the clover seed. The next spring turn all under for corn or cotton. You can sow the crimson clover among the cotton in August, usually, with perfect success. Hogs should not be turned on the clover until it is in bloom. On peas they should be turned when the pods are ripening. The best crop to grow for the hogs in winter will be Dwarf Essex rape. Sow in rows like turnips the last of August or early September and cultivated carefully on good soil well manured. The pigs can pasture on it through the winter. Your question in regard to sowing oats "in open furrow" we do not understand at all. Fall oats should be drilled in on well prepared land early in September. Now as to turning a heavy growth of clover with one horse, we are of the opinion that it cannot be done. If you are ever to get your thin land improved you will have to do better plowing than one horse and a little plow can do. The one mule plow is the curse of the South, and our red hills will never be improved until better plowing is done. With a big plow and three mules abreast you can break land as it should be broken, and you will never find out what a fertile farm you have in the red clay right below where it has been scratched until you get a plow and team able to break it.

Grasses for Name.—J. L. Conghenour, Glensavage, Pa.—"Please name the enclosed grasses. Last year I bought a small quantity of a new grass called Bromus Inermis, and sowed it about 25 pounds per acre. Got a poor stand, and find these five grasses and do not know which is the Bromus Inermis." No. 1 and No. 3 are both Bromus Secalinus, or cheat. One head is a little larger than the other and this is all the difference. No 2, we believe, is meadow fescue, but it is badly damaged. No. 4 is Lolium Perenne, or perennial rye grass. No. 5 is Holcus Lanatus, or velvet grass. No Bromus Inermis in the whole lot.

Plant for Name. — G. M Matthews, Hornersville, Mo.—"Can you name the enclosed weed? It has come in our pastures the past year. The cows eat it and it makes the milk so bitter that it cannot be used. Is it likely to spread much?" The plant is Helenium Tenuifolium, or narrow leaf sneezewort. It is probably creeping northward from Arkansas, as it has not been commonly reported in Missouri. As it seeds plentifully it will probably spread, but you can check it by mowing the pastures before the seed ripens and gathering and burning it. Then next year mow off what appears, before blooming, and do not allow any to make seed.

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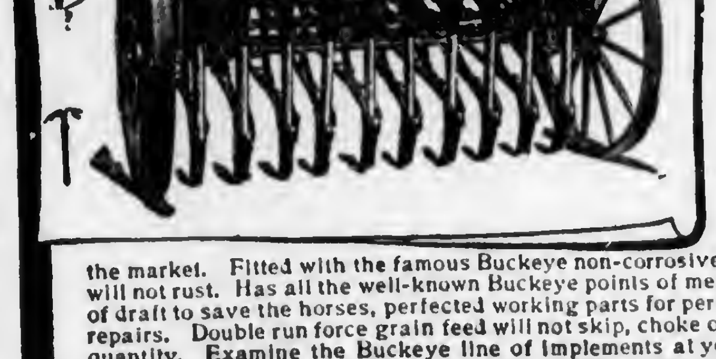

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FORAGE FOR LATE SUMMER AND AUTUMN.

I cannot too strongly urge upon farmers the importance of sowing some cow peas or soy beans during the month of July. If the ground be properly fertilized there will be a fine growth of valuable forage before the coming of frost. This forage can be fed green or cured for hay.

COW PEAS

and soy (or soja) beans are highly nutritious, being fully equal to clover for producing milk or making flesh. They are leguminous or nitrogen-collecting plants, leaving the soil richer than they found it. They need a fertilizer containing phosphoric acid and potash, and such a fertilizer costs but little money. Cow peas and soy beans will pay handsomely, whether fed green or made into hay or plowed under for green manuring purposes.

Whip-poor-will Cow Pea. I especially recommend this variety for the North. It is a quick-maturing bush sort.

Black Cow Pea is a trailer, but it matures so quickly that it may be planted North or South.

Wonderful (same as Unknown). I recommend for the South. It is a trailer, yielding an enormous amount of fodder, but not maturing as quickly as others.

Price of either of the cow peas, per peck, 60 cents; per bushel, $2.25.

SOY BEANS

are quite as valuable in all respects as cow peas, and may be treated in the same manner, using the same amount of seed per acre. I sell a strong-growing, upright or bush sort which makes a quick growth.

Price of soja or soy bean, per peck, 75 cents; per bushel, $2.50.

Sow broadcast or in rows; 1½ bushels broadcast or 1 bushel per acre if sown in rows 3 feet apart. Sow before end of July the earlier the better.

WM. HENRY MAULE, 1711 Filbert Street, Philadelphia, Pa.

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☛ If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Improving Poor Land Through Grazing.

PROF. A. M. SOULE.

On almost every farm there is some poor land. In some cases it is extremely poor so that it will hardly grow anything beyond sedge grass and sometimes a little Japan clover. Lands have reached this condition as the result of abuse and improper cultivation. They are of necessity an eye-sore and a menace to the prosperity of the agricultural community. Each year the yawning gullies grow wider and deeper, making the land more difficult to reclaim, as well as endangering the destruction of the richer bottom lands. How to reclaim these lands profitably is a problem of momentous importance to many farmers. The old method was to try and stop the gullies by brush dams, by contour plowing and hillside ditching. These methods are both laborious and expensive and do not tend to build up the land as rapidly as is desirable, and besides, the cost is too great. This practice also necessitated the following of a system of clean culture which is largely responsible for the present condition of what are waste farming lands in every section of this great country. It is thus very desirable to find some means by which these lands can be reclaimed with less labor, and also a method which will not necessitate a system of culture in hoed crops which but aggravates the tendency to soil washing.

The first solution of this problem would seem to be in laying the lands down to grass, but when the top soil has all been washed away it is rather a difficult matter to farm on the subsoil unless it has been very carefully treated and even then plants as small and delicate as young grass find it a difficult matter to readily establish themselves. As a result, people having this character of land have abandoned the attempt to lay it down to grass, owing to the numerous failures encountered, and worse still, becoming disgusted with the attempt to render its cultivation profitable have thrown it out and left nature to cover it up with briars and scrub forest growth. As grass cannot be obtained successfully in the beginning, and the system of hoed crops generally grown is not satisfactory, some other means of reclaiming these lands must be found and while the method here outlined is not a panacea for all the ills of those having waste lands on their hands, still its judicious application will generally prove effective, enabling the farmer to make these lands profitable and eventually get them in condition to lay down to grass. The system, too, has a much wider application than the reader at first might think, for this is not a local problem by any means and many of the crops mentioned can be used for pasture over a very wide territory. The climate of the whole Appalachian region favors the production of cereals, so that lands of even moderate fertility will in the beginning produce profitable pastures if seeded to these crops. As the winters are mild the crops, if seeded early, can be grazed for a long period during the fall; in some instances during the winter, and again in the spring, until the first of May or June. Cereals, in order to furnish the largest amount of pasture, should be seeded early, from the 15th of August to the last of September. Rye is the most vigorous growing of these crops, though winter barley and oats can be used to advantage, some varieties of barley and oats making a very thick mass of herbage that effectively covers the ground and prevents washing and furnishes a rich, nutritious food for live stock. One objection is found to grazing these lands during the winter, and that is the carelessness of the owner in permitting live stock to run on them when wet. This is a serious mistake and especially is it true in regions where red clay soils prevail, as these lands are inclined to be tenacious in character, and being retentive of water are easily puddled. By growing two or three cereals a better succession of grazing can be had during the fall and winter, which is an advantage. This also permits the breaking up of one section of the land at an earlier date in the spring than could otherwise be done, so that it may be re-seeded to one of the crops to be utilized for summer grazing. It is important to have one or two crops seeded early in order that a proper succession may be had throughout the year. This also brings the work of breaking and re-seeding on at different seasons and thus makes a better division of the work.

In the early spring, as soon as practicable, one section of the cereal crop that has been grazed down closely, say rye, should be broken up, a good seed bed prepared, and a mixture of corn and cow peas seeded broadcast. By the time the other cereals are exhausted, the last one being grazed until the first of June, this crop will be ready for pasture. As soon as the second area of cereals, say the barley, is grazed down, it should be broken up and seeded to a mixture of sorghum, cow peas and soy beans. This crop, like the former, may be broadcasted, but it is probably better to seed all of them with the grain drill, permitting every tube to sow. This distributes the grain more effectively, covers it much better, a very important consideration, and is more likely to result in obtaining a uniform stand and in the destruction of noxious weeds. The third area of cereals should be broken about the first of June and may then be seeded to velvet beans or a mixture of cow peas, sorghum and velvet beans, or several other combinations that will readily suggest themselves to the farmer and be well suited to his local conditions. The corn and cow peas, sorghum and cow peas and soy beans and velvet beans will furnish a good succession of grazing crops from early spring until late autumn. Then by breaking up the areas and seeding them to rye, barley and oats in the order named, a succession of cereal crops will be added for use the next fall, winter and spring. The seeds of these crops can all be purchased at a moderate price and large quantities need not be sown, especially if put in with the grain drill. By rotating the crops as suggested the land is kept covered, soil washing is prevented, and by the grazing of animals throughout the year, the soil is enriched through the droppings and the roots of the crops plowed down. It is surprising what a large number of animals can be carried per acre through this system of grazing, and these animals will do quite as well and make as good, if not larger gains than will be obtained from the average lands laid down to a mixture of tame grasses. This system of rotation for the improvement of poor soils through the exclusive use of grazing crops has proven very satisfactory at the University farm, where a piece of land is being improved through the system outlined, though it was so poor in the beginning that it absolutely would not grow corn or sorghum. The first year some farmyard manure was put on the land. Since then nothing but a little phosphate and potash have been applied, these being elements in which the land was found to be deficient. In the course of a few years, through the exclusive grazing of animals, this land will be brought into condition to grow successful crops of almost every description, the gullies will be covered and effaced and the land can then be laid down to a permanent mixture of grass if desirable. It would have been a waste of money and effort to try and farm this land by means of hillside ditches, terracing, etc. It would have been folly to attempt to establish a sod of grass on it in its original condition. Through the medium of the system suggested it is gradually becoming a profitable and valuable piece of land and is supporting a fair number of animals each year. This plan can be duplicated with success on many, many farms, and if judiciously utilized will solve a problem that is fraught with difficulties and which has proven a stumbling block to many.

Tennessee Experiment Station.

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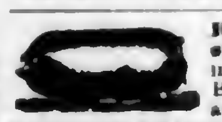

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Soft Corn Gives Good Results.

During the past year there has been much difference of opinion among stockmen concerning the feeding value of soft corn caused by the early September frost of 1902. Early last October Professors Kennedy and Holden of the Iowa Agricultural College issued a report showing the chemical analysis of soft corn and discussing the feeding value of the same. They claimed that on a dry matter basis it was equal to mature corn for feeding purposes. On account of the large amount of moisture present more would have to be fed to get good results. At that time the Animal Husbandry Department commenced a practical feeding experiment to to test the same. Sixteen steers of uniform breeding and quality were divided into two lots of eight each. One was fed on mature corn grown in 1900, and the other on soft corn of 1902. These steers were fed six months and marketed on April 16th in Chicago. Each lot was sold separately, but the buyers could not see any difference, thus they both brought the same price, 5.25, within 15 cents of the top of a dull, slow market. The results of the slaughter test showed the soft corn lot to kill out 60.8 per cent. dressed meat. The mature corn lot 60 per cent. dressed meat. The gains made by the lots were practically the same and the number of pounds of corn required to produce one pound of gain was almost the same, being slightly in favor of the mature corn. Valuing the mature corn at 55 cents per bushel and the soft corn at 30 cents per bushel, there was a difference of almost three cents per pound in the cost of producing one pound of gain in favor of the cattle fed on soft corn. Full details of this experiment will be issued in bulletin form at an early date.

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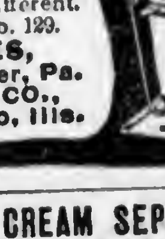
Feeding Alfalfa Hay.

D. P. DRAYTON.

Noting your request for information from others about feeding alfalfa hay and Mr. Scott's article in issue of April 18th, would say that alfalfa hay stands at the very head of feeds in hot countries. I lived for five years on the desert of Southern California where the thermometer during the summer months hugs 130 in the sun, and the best balanced ration we were ever able to got was alfalfa hay and rolled barley grain. We experimented with barley hay, Texas Red oat hay and alfalfa, but alfalfa was the best, with Texas Red oat hay a close second. Horses look sleek and have a lovely coat with this hay. They endure fatigue. I can take a horse that is all knocked out entirely from excessive feeding of timothy, barley and other carbonaceous grasses including the millets, put him on an alfalfa ration and its effect is magical in putting life and vigor in him, and a sleek and healthy exterior. I never before heard that alfalfa hay caused mares to come in heat. If it be a fact, so much the better. I lately lived in Kansas, coming to Idaho only a year ago. While there I tried all one summer to get two mares with foal, losing much valuable time, and going long distances, only to be disappointed when breeding season closed. The mares had been born and reared under the corn cure, and their natural instincts seemed to have been burned out of them by their diet of corn and prairie hay. Alfalfa hay is the most ancient forage known to man. Xerxes fed it to his cavalry horses when he attempted to curb the Hellespont. It combines within itself an ideal ration, having the right proportions of muscle-forming and fat-forming constituents. I am settled on a homestead in Idaho and am bending every energy to getting in a crop of alfalfa. My only fear being that I will not get my land cleared in time for the seeding. May alfalfa continue to be the king of feeds.

Arthur, Idaho.



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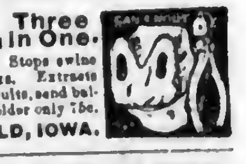

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Lock Jaw. — We have a yearling mule that was castrated about May 1st. The cords were seared. The wound healed, as we thought, too quickly. Then there seemed to be a formation of pus in one side of scrotum. We cast him and made a cut to remove this, but found instead of pus a gray, jelly-like substance, which could be removed in small particles. This last operation left the scrotum about natural size. Now he is stiff in his limbs and when you back him his eyes draw backward and upward until he cannot see. W. S. WILSON.
Everton, Mo.

The horse is afflicted with lock jaw, and if still alive should be at once placed in a box stall and kept absolutely quiet. The disease is due to the germ of tetanus getting into the wound and can usually be prevented by making a very large, free incision in the scrotum at time of castration, so that wound does not close and air enters with its oxygen, which kills or prevents action of tetanus (lock jaw) germ. Darken the windows of box stall, allow plenty of fresh air to enter, he cannot have too much, provided he does not stand in a direct draft, tie him so he cannot lie down, or place slings under him carefully and gently. The least noise or excitement aggravates spasm fearfully and often causes speedy death. Place, so that he will not have to stoop, a pailful of cold water in front of him, also a pailful of sloppy food, which he can drink if teeth are so set that he cannot chew. If very excitable inject 1 oz. each of fluid extract of cannabis indica and raw linseed oil into rectum every four hours or as often as is found necessary to keep him quiet. Do not speak above a whisper and walk as carefully as possible; also keep everyone away from him except his feeder. It is best to put a padlock on the stable door. If possible place him in a building away from sound and sight of other animals. Here, under above treatment there is some chance of recovery if he is not too badly attacked. Disease goes up hill (aggravates) for nine days, remains stationary until eleventh day, then very slowly and gradually diminishes until in one month to six weeks he recovers. After the fourteenth day when spasms relax and muscles soften animal will try to lie down, and if allowed to do so will at once have fearful spasms and die in agony. Keep him on his feet by all possible means. You may as well shoot him at once should symptoms at any time very greatly increase for the worse and especially if sweat commences to pour off his body. Antitoxin injections are given by some, but we have had no good results from this treatment.

Chronic Constipation.—Mare 9 years old seems inclined to be colicky; she doesn't seem to dung right; that is, the other mare dungs four or five times while this one dungs once, but when it does come there is nearly a basketful at once, and sometimes the excrement comes just so you can see it and goes back; sometimes in ten or fifteen minutes she makes another effort and expels it; if she don't she gets colic. She is also troubled with lymphangitis. She had been troubled with worms some time ago but have not noticed any for about a year; they were worms about two or three inches long and pointed at one end. W. L. RABER.
Mt. Grove, Pa.

Have her teeth put in order by a veterinary dentist. Keep her, when in barn, in a roomy box stall. Feed hay night and morning. Always allow water before, and not soon after a meal. Place a lump of rock salt in manger, to be licked at will. Feed bran mash each night, mixing in it a half pint of flaxseed meal and a little salt. In winter feed carrots sufficient to keep bowels open. Avoid corn and substitute oats. In drinking water twice daily mix two tablespoonfuls of glauber salts and increase amount if necessary to keep bowels in proper condition. As a tonic for the stomach and bowels mix one drachm of powdered nux vomica in the feed night and morning. Have her clipped if coat is long and rough. Avoid hard drinking water. See that she is worked or exercised every day, rain or shine. This treatment if carefully followed will soon give her a new lease of life and also prevent lymphangitis. Worms may be treated for according to instructions often given here, but at present merely treat as above.

Crooked Tail.—Have a thoroughbred 3-year-old trotting mare which carries her tail to the left side and at the same time, when trotting, kinks it up about six inches from the end. Now, if I get a competent veterinarian to take the tail off up to the kink, and then tie it around to the right side until it heals, will it straighten it or will it have to be hacked, too? I. G. M.
Clarksville, Pa.

It might be possible to save the tail yet straighten it in every respect. Two operations would be required. First would consist in cutting the curvator muscles on left side of tail, then breaking the tail over to the right side daily or keeping it tied around to a circingle around body. In operating a small, sharp scalpel is thrust down through tail from under side at a spot, say one inch from the bone of tail. When the knife can be felt against skin of hairy side of tail it is to be withdrawn and a blunt pointed bistoury introduced until its end can be found against the finger at hairy side of tail. With this knife, edge turned away from bone of tail, all of the muscles within the skin are to be cut through until the knife is again pulled out of the original wound. Knife is to be made to rim around and cut under skin without injuring skin. This operation is then to be repeated in same way through an incision made four inches further down towards tip of tail. Horse is to be cast and secured for the operation. When tail is carried straight it is possible that end will not be curved upwards, and in that case no further operation will be required. If it is carried upward that portion of tail may be cut off or veterinarian may perhaps be able to cut muscles above bone of tail and then put tail in splints.

Indigestion. — Have a 9-year-old good road mare that is in apparently excellent health, but while driving is continually breaking wind. W. W. FENTON.
Philadelphia, Pa.

This bad habit shows that there is unnatural fermentation of food going on as a result of chronic indigestion, so that it will be necessary to feed more carefully. The following precautions should be taken: Exercise every day; water before feeding, not afterwards, and allow but little water on the road; allow sufficient time for mastication and digestion of food at meal times; in other words, do not work horse immediately after a meal; do not feed him when he is warm or tired, let him rest a while; if he bolts his food place some cobble stones in feed box, which should have a wide bottom; feed hay night and morning, when there is work to be done, and wet it with lime water; avoid feeding much bran; a bran mash on Saturday night will be sufficient; avoid corn feeding and green grass; feed whole oats and first-class upland prairie hay. If these precautions do not mend matters then give him in each meal a tablespoonful of a mixture of equal parts powdered wood charcoal, hydrastis canadensis, ground ginger root and baking soda. If drinking water is hard from lime it would be well, if possible, to substitute soft water.

Feeding Peas to Horses.—I would like to ask if oats and peas ground together, one part peas to four parts oats, would be good feed for a horse, and if they would have any effect on their kidneys? A. L. BARNES.
Brisbin, N. Y.

Peas or beans fed whole along with oats are good food for a hard working horse and do not have any injurious effect upon the kidneys. It is not well to grind them for horses, as one of their chief values is that they make the horse masticate his oats perfectly in order to get the taste, etc., of the peas, of which they are fond. The beans referred to are English horse beans. We have no experience in feeding common beans.

Injured Cow.—What is the matter with my cow? She is 10 or 12 years old, was well cared for. Feed oat hay, wheat bran and prairie hay. She calved two months ago; calf was dead. She was sick a few days before calving; had to take calf from her; could not have calved alone. Cow has been stiff and pained in walking since; lately one hind leg began to swell above hock joint and is swollen down to foot now; when skin is punctured nothing but blood comes. She walks around but little now, and with much pain. Has good appetite. JOHN DICK.
Hackett, Mont.

It would seem that the cow was injured by helping at time of calving and it may be that bones of pelvis were displaced, which would explain the lameness. As a rule, a discharge from vagina is seen where womb or vagina are injured in calving, and if this is the case here it would be well to flush out the vagina once daily with two gallons of milk-warm 1-1000 solution of chloride of zinc for two weeks, or at least until discharge ceased. An examination of the vagina would doubtless disclose nature of injury, which might have to receive special treatment, in which case write again after making the examination. Feed her well and give internally three times daily half a drachm of powdered nux vomica, half a drachm of sulphate of quinine and one drachm of dried sulphate of iron. If she will not take food containing this medicine mix the powder in a little syrup and place far back in mouth, or dissolve the quinine in one drachm tincture of iron and give in a little water while the nux will be readily taken in food. Wrap the swollen leg with flannel wrung out of hot water and rub three times daily with soap liniment.

Lameness.—My horse becomes lame when worked very hard. Right hind hock enlarged and soft just below hock joint. Have done nothing for it. W. D. D.
Rubermont, Va.

A spavin is scarcely the cause of lameness here, as in that trouble the lameness is only present when horse starts out and disappears after he goes a few steps or rods. As, however, the hock seems to be the seat of the lameness and a curb may be present just back of and below hock it would be well to blister entire joint as so often advised in this department of the paper, and if that fails to cure have joint fired and blistered by a veterinarian.

Crooked Tail.—What do you think of a horse with a crooked tail? Can they be cured by cutting muscles of tail? Any light you may give will be appreciated.
New Washington, Ind. SUBSCRIBER.

See answers in this and late previous numbers of the P. F.

Navel Infection. — Since reading your article on blood poisoning in P. F. of June 20th, I think that is the trouble with my horse colt. Would like to have your opinion. He came on night of April 15th, and in about three days I noticed his navel was swollen and inflamed; on May 11th left hock and left knee began to swell; May 25th abscess at hock broke. Then another abscess came on left hock, which I lanced about June 3rd. In about a week his right thigh began to swell and is still swollen. On June 21st he lost use of hind legs. When I stand him up to suck he stands on his hind toes for a few minutes and then gives way at his ankles. He seems to have no control of his hind legs. He has a ravenous appetite. His urine and bowels seem to be all right.
Corydon, Ky. W. T. MELBOURNE.

We can give you little promise in this case, and, as a rule, colts recovering from such an attack of pus absorption are poor, useless beasts for life. This case shows the great importance of giving the navel the attention we have advised. For the benefit of others, we will repeat that the necessary treatment consists in having colt born in an absolutely clean, disinfected, whitewashed box stall, unless on clean grass and the immediate application of a solution of two drachms of corrosive sublimate and a half drachm of hydrochloric acid in half a pint of boiling water, used cold, to the raw navel, and a similar application twice daily to that part until navel shrivels up, drops off and no raw spot remains. Do this with calves, lambs and pigs and a deal of similar trouble will also be prevented, besides, in many instances preventing scours which is sometimes due to similar infection by way of the raw navel cord. To return to the case in question, give ten grains each of quinine and salycilic acid alternately every three hours in egg nog or milk and port wine or brandy, a tablespoonful of the stimulant to a cupful of milk. Use antiseptic solutions on the sores and inject 2 per cent. solution of protargol into such as discharge. Rub the loins and muscles of hip to stifle twice daily with soap liniment. Give cod liver oil in addition to dam's milk if colt is very weak.

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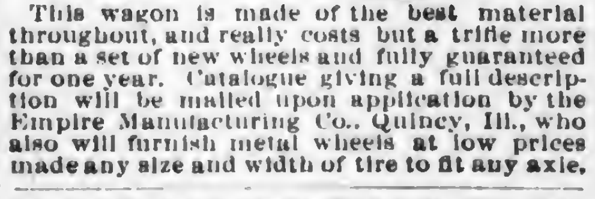
Cured Swollen Gland.
Passumpsic, Vt., Jan. 20, 1902.
The Lawrence-Williams Co., Cleveland, O.:
Valuable mare had a swelling in her throat. People said it was in a gland and would prove serious. I used your Gombault's Caustic Balsam and blistered it, and it took all swelling away. Her throat is just as smooth as ever and she is all right. I would not be without it in my livery stable.—C. H. ANNIS.



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This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

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Bickmore's Gall Cure
Guaranteed to cure Harness, Collar and Saddle Galls, Scratches, Grease Heel, Speed Crack, Cuts, etc. None genuine without the "Old Gray Horse" trade mark on each box. Beware of imitations. Ask for and insist upon getting "Bickmore's," for nothing else is so good. Substitutes yield the dealer more profit, but cost you the same. Sample, enough to cure one horse, mailed for 10 cents. Write now.
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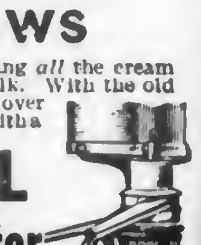
BE SURE AND WORK THE HORSE



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is but a question of getting *all* the cream (butter fat) out of the milk. With the old setting system your loss is over 80 per cent greater than with a
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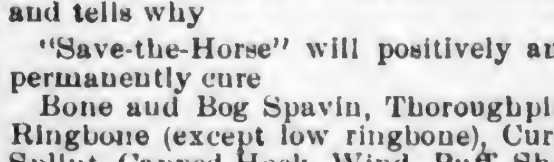

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Send for our booklet—a valuable treatise on the injuries and diseases of horses and tells why
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Small Fruits for Money.

A reader of Gleanings reports that two years ago, he sold within a few cents of $500 worth of strawberries off from 26 rows 220 feet long, and about $300 worth from the same patch last year. There is nothing incredible about this. Of course $500 from less than half an acre of land is a big sum, but a good crop of strawberries in a year of good price can fetch it. This shows that in any locality where the conditions are right, the strawberry is one of our foremost money crops. We can grow good berries in almost any kind of soil, from clear sand to stiff clay. But we must select varieties according to our soil and conditions, and each grower must try for himself, what varieties are best suited to his locality unless a neighbor can tell him. In one place an early berry will sell well, in another a late one. In one place the call is for Wilson, in another for Brandywine or Gandy. The grower's aim must be to meet an existing demand, or a demand that he can easily create. It is useless to grow berries (and may they be ever so large and fine) for which you cannot expect to find a ready sale. So it all depends on circumstances. But whenever the conditions are right, the strawberry is still one of our leading money crops.

But when you aim to squeeze $500 out of half an acre of land, you must expect to do your part well. It cannot be done on poor soil or on soil that is deprived of humus and therefore lifeless. It cannot be done except by means of high culture and shrewd management. You must select suitable varieties. You must use plant foods freely, and put the soil in best order even before you plant, and then keep it cultivated, and free from weeds, and free from an excess of runners, and you must apply a mulch between the rows and around the plants as a winter protection, and for the purpose of keeping the berries clean when it rains. But all these things are comparatively simple if you know how, and they entail but a moderate, and compared with the returns, really small expense. Many of these remarks, especially concerning marketing facilities and treatment of soil, apply with equal force to raspberries and blackberries, and perhaps currants, as money crops. On strong soils, and with good treatment, we raise immense crops of red raspberries, blackcaps and blackberries, also currants and gooseberries. I would be afraid to tell the number of quarts of red raspberries, for instance, that we have picked from our small patches, or to figure out the acre rate, for at 10 cents a quart, a price we frequently obtain, the amount per acre would even exceed that named by the Michigan strawberry grower already quoted. I do wish that all of my friends could see the immense loads of blackberries of various varieties just now swelling out on my plants (three year old), in order to get an idea what good, strong loam is capable of bringing forth. Since the advent of the Columbus gooseberry we also have no more trouble to secure a full, indeed wonderful crops of this coveted fruit, and we usually find very ready sale for them, too. It's high cultivation, bountiful manuring, sometimes the free use of coal ashes (with some wood ashes mixed in from the kindlings, etc.) that give us these results. But as already said, when conditions are right, these crops bring the cash.

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Talks on Timely Topics.

Squash Growing for Money.—I have always thought highly of the Hubbard squash as a money crop. In many cases we can grow it very easily, without extra effort, and sometimes without even devoting a separate piece of ground to it. I have had the Hubbard yield a good crop in my sweet corn fields. In fact, I usually plant it among my sweet corn just as farmers plant pumpkins in their corn fields. If the squashes do not grow to extra large size, as they often do when we plant them alone on any rich ground, it is all the better, as the market prefers small squashes. In some years, as in 1902, there is a ready call for winter squashes, and several cents can be obtained per pound for it. Sometimes, in consequence of free offerings, the demand is not so brisk, and the prices low. Yet it is not often that we cannot sell winter squashes in the fall for $10 or upwards per ton. At this rate even, the crop pays pretty well when we have a crop. I frequently use the margins of cultivated fields, vineyards, etc., to plant a crop of Hubbards. In the forepart of the season we have to leave a chance for the horse or horses to turn around in cultivation, and with the squash hills 8 to 12 feet apart, we can manage to dodge them up to the time that they make greater efforts for spreading. In the late season we cease cultivation, so that the squashes, then covering the margins and possibly running into the adjoining lands, the vineyard, etc., need not be disturbed. By planting in these widely separated spots, in corn fields, etc., we will usually get at least some of the plants to survive the attacks of their enemies, and give us a crop. In the American Cultivator, I find the following on squash growing, viz.: "Nothing is gained by planting winter squashes before the weather becomes warm and settled. They are strictly warm weather plants and will grow like mushrooms when both days and nights are warm and moist. The soil, too, must be warm, not too wet or heavy. Late sown squashes are more likely to escape the borers, and the plan with thick seeding is the only one that seems to afford much chance of a fair crop when the insect abounds. Plant hills six feet apart, eight or ten seeds in the hill, thinning out all but four or five strong plants after the rough leaves start. Use plenty of well-rotted manure worked into the hill. Where borers are thick it is safer to plant hills close with fewer plants in the hill. The drill system with seed a foot apart has been used successfully. Such a row beside a garden wall or fence, with plants trained outward, will produce a large supply of squashes without requiring much valuable space. Vines running over cultivated ground may be protected somewhat from borers by covering a few joints with earth. They will send out roots that will sometimes save the growing squashes. Many new winter varieties have been introduced, but the Hubbard is still the most popular. It is large, productive, first-rate in quality and a long keeper. The yield depends much upon the season and abundance of vine borers. The average is estimated at from three to ten tons per acre, and the prices from $10 to $30 per ton."

The borer here is not a formidable foe. In fact, I have not seen one in many years. But I believe that the free use of tobacco dust around the plants will easily keep this enemy away. The insect which gives us the real trouble with squashes is the yellow striped cucumber beetle. Dusty applications help some. But it is a hard task, indeed, to keep this foe off entirely. We are bound to lose a lot of plants, and must resort to spraying, thick and repeated sowing, and largely to luck, to save plants enough for a full stand. Mr. A. M. Purdy, in N. Y. Tribune, gives his plan of managing Hubbard squashes as follows: "I take a 3-inch strip of tarred roofing or siding paper, making a round box 3 inches in diameter, and put one of these around each hill of plants, and water the plants occasionally with salted water—not too strong, and a teaspoonful of kerosene to a quart of water. Red pepper is also good, sprinkled on slightly. These tarred boxes are also a protection against cold winds." I recommend this for trial; will try it myself.

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Notes from a Carolina Garden.

It is the first of July, and we are just having the first real summer weather, which makes the cotton farmers rejoice, for the crop has been suffering from the cool weather it has been exposed to up to the present, and is smaller than ever known at this season. The first of the roasting ears are about ready, fully two weeks later than usual. Sugar corn seed has shown a very low germinating power, probably due to the early frosts last fall in the regions where the crop is produced for the seedsmen. The Prizetaker onions which were transplanted from frames are growing apace and promise to be very fine. Tomatoes ripen very slowly, but we have had some of Maule's Earliest and also some Success. What a splendid tomato this last one is. I see very little to be desired in a tomato that it does not possess. The Southern blight has struck us, and, as usual, we are losing some big plants full of green fruit. If we could but get a tomato that resists this blight it would be a great boon to the South, for no amount of spraying seems to affect it. Liming the land seems to partly prevent it for one season, but in a private garden it is hardly possible to get fresh soil for the tomatoes every season. We have now a lot of plants from seed sown the first of June to take the place of the early ones that will soon fail. This is the only way we can keep up a supply of tomatoes until frost. We are watching the Giant Chinese pepper with some interest. Last summer we had but two plants in a rather unfavorable location and did not get many. But they were immense. Last summer we had the Ruby King alongside of the Tobasco, and they seemed to catch some of the intense heat of the Tobasco and were the hottest pickles we ever made. This season we are keeping them away from the Tobasco, for heretofore the Ruby King has been rather mild, and if they prove mild this season we will feel sure that crossing with the Tobasco affected them last summer. My family thought that they were fond of pepper vinegar, but the Tobasco rather checked their fondness by reason of its intense sharpness. I made a late planting of melons the last week in June, planting the Norfolk Button, Maule's Perfection and Maule's Prize Jenny Lind. The early melon planting has been seriously checked by the cold and wet and then dry weather, and are rather unpromising and none yet ripe. Sometimes the late planting is a great success and we hope it will be so this season, for we are very fond of muskmelons for breakfast. The Japan and some of the American plums are now ripe. Abundance is about over and Burbank is now loaded with fine fruit. Some of the later varieties are rotting notwithstanding spraying, but the Burbank seldom rots. The early peaches of the Alexander and Amsden class are over and we are not sorry for it, for we will now get peaches that are peaches. Mountain Rose is now in use and the good peaches will follow each other rapidly. I have one tree of the old Green Gage plum loaded with fruit and beginning to ripen, and though not large, there is no superior among plums in my estimation. Figs are loaded with the late fruit, but there were few of the early crop, as they dropped in the early wet and cold of spring. But by the last of July, or perhaps earlier, the late ones will begin to ripen, and then we will have fresh figs until frost, and preserved ones in winter. We received from the Agricultural Department this spring, cuttings of several new varieties of figs said to be uncommonly hardy. These all grew, and we will look to them with a great deal of interest, for in years past we have tested over fifty varieties of figs and have finally fallen back on the Brown Turkey and Celestial. I hope the new figs will be valuable here.

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Points and Pickings.

Cow Horn and Other Turnip varieties are recommended as a humus crop. I think we have much better plants to make humus than turnips—crimson and other clovers, etc. Turnips are more water than carbon, anyway.

For Cucumber Beetles. — If you have nothing else on hand to keep the beetles off your vines, try common land plaster dusted over the plants, and if land plaster is not available, even common road dust is a good deal better than nothing, and in most cases you will get some effects from it.

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A Free Kidney Remedy.

Dr. D. A. Williams, East Hampton, Conn., says if any sufferer from Kidney and Bladder Disease will send him their address he will mail them free of all cost, some of the remedy they are looking for—the ONE that will cure them.

Good Reports.—The Dowden Mfg. Co., Box 29, Prairie City, Iowa, report that letters coming to them indicate that the potato crop is going to be very good in many sections. You will remember that this company manufacture the Dowden Potato Digger, one of the best machines on the market and one from which we have yet to receive a complaint, although they have been selling them to our readers for years. Write for catalogue mentioning the P. F.

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Gwiakowe. — Gwiakowe is an Indian word and means "Corn is King." In America corn is indeed the king of cereals, the grain alone being valued at considerably more than $1,000,000,000, which is more than double the value of the wheat and oats crops combined. In addition to the grain value of the crop, the stalks when shredded are worth as much as the ears, and hence the McCormick corn binder and the McCormick husker and shredder have enabled the corn grower to double the value of his crop. A beautifully illustrated book entitled "King of the Corn Field," will be mailed free to readers of the P. F. if they mention our paper. Write to the nearest McCormick agent.

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34 Points for a Manure Spreader.—In the large catalogue, 10x14-inch pages, of the Smith Manure Spreader Co., of Chicago, the very first page may well hold the reader's attention for a considerable time, it being given up entire to "thirty-four reasons why you should have a Great Western Endless Apron Manure Spreader." This matter, of course, was intended to apply to the Great Western Spreader. Many of the reasons, however, are general and apply equally well to any good spreader, and as such are worthy of careful study by every farmer who is interested in the mechanical distribution of manure, whether he has any pre-disposition toward the Great Western Spreader or not. Among spreaders it goes without saying that in our opinion this Great Western Spreader is one of the most valuable in the field. It was not the original spreader. Coming late, it was able to remedy the short comings and defects of other machines, employing ideas that were good and obviating weaknesses, thus taking high rank from the start. The advertisement has been running for a considerable time in our columns. Once before we had a word to say editorially in favor of its most prominent features. To appreciate its true value to the farmer we can do nothing better than commend readers to a study of the "thirty-four reasons" mentioned above, and the detailed descriptions and full page illustrations which follow in the catalogue. This catalogue may be had free of charge by writing the Smith Manure Spreader Co., 59 North Jefferson St., Chicago, Ill., and mentioning the P. F.

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Caustic Potash Whale-Oil Soap No. 3.
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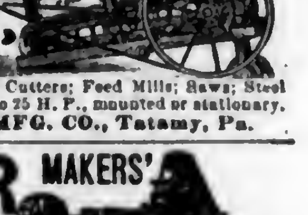

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Strawberry Runners.

In the formation of strawberry beds in late summer, looking forward to a crop the coming year, the soil is often very dry, rendering the establishment of the plants very difficult. It is, really profitable work to pot a lot of runners some time in advance, then the plants can be set no matter what the state of the weather is, wet or dry. Layers taken up, the leaves trimmed back a little, potted and kept in a close frame or other place for a week or two will then make root, and very soon thereafter could be planted out without being checked at all. What are called Neponset paper pots can be used. They last longer even than are needed for the strawberry plants, and are far cheaper than ordinary clay pots. Plants set out in this way, without check, take hold of the soil at once, and make plants strong enough to give a good crop of fruit the spring following. Mentioning the Neponset pots, those who have occasion to ship plants to market in pots would be delighted with them. There is no breaking of pots to be feared, and they can be packed to so much better advantage. Florists use them to a great extent, and every season to a greater extent than the last.

Bigarreau Cherries.

Garden cherries may be placed in three classes, viz.: Heart, Bigarreau and Duke and Morello. The first section, the Heart, contains the sweet cherries of tender, sweet flesh; the Bigarreau, the sweet ones of hard flesh; and the Duke and Morello those having more or less tartness in their fruit. The Heart class is very much desired for home use, while the Bigarreau are the best shippers; and when planting sweet ones for shipping purposes it is better to set the last named. Among well-known kinds in this class are these: Cleveland, Napoleon, Rockport, Elkhorn, Windsor and Yellow Spanish. All of these can be planted with assurance of having worthy sorts. Elkhorn and Windsor are black, Napoleon and Yellow Spanish, pale yellow, the others, red or amber. Probably the two most popular are Napoleon and Windsor, but were Elkhorn and Yellow Spanish as well known the two named first would have to race for first place. Those who have Yellow Spanish think it the best of all light colored cherries. It is an early ripener, while Napoleon, the other light one, is late.

Of the two black ones named, both are late, the Windsor, the latest one, not ripening until the close of July in New York; in Pennsylvania it is fit to gather by the middle of the month. Napoleon is supposed to be the one so popular in the Pacific States under the name of Royal Ann, thought to be a corruption from Napoleon, as there seems no record of such a one as Royal Ann. In the North it is preferred to plant cherries in the fall. They push quickly in spring and the non-success of spring planting has occurred so often that it is settled among planters that fall planting affords the better chance of success.

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Horticultural Queries.

Clover in Orchard.—I have plenty of ground sloping to the east, of only fair soil, and inclined to wash, that I have thought of putting out an apple orchard on. A nurseryman selling trees here a few months since, recommends sowing such lands to clover as a good thing for young trees. I now have it planted to sweet corn and want to set my trees next spring. What do you think best? J. C. JEFFRIES.
Samaria, Ind.

Turned under clover is very good as preparing ground for fruit trees, but soil that will grow sweet corn, as yours is doing, is good enough for an orchard. If you think a little more food is advisable, place a little with the soil filled in about each tree as you plant it, but do not put the manure close to the roots, unless it is well decayed. If you fear washing of the soil you need cultivate no more than around the trees as far as the roots extend. Let something else grow between the trees that will prevent the washing.

Green Fly.—I wish to ask about small green lice that are on my young trees. I tried spraying but it did no good, as they do not eat, but just suck the juice out of the tender twigs. I removed a good many of them by taking two scrub brushes and taking the limbs between them and brushing off, but this is not practical on larger trees, and I wish to know if there is not something to spray them with that will kill them?
New Waterford, O. C. W. HALL.

The green lice you mention are what are called aphis, or green fly, and are unusually abundant this season. The best out-door destroyer of them is a liquid solution made from tobacco stems or leaves, syringed over the trees. Take about four ounces of tobacco and boil it about ten minutes in a gallon of soft water. As it cools, add four ounces of soft soap, stirring it well that all may be properly mixed. The green fly abhors tobacco, and a syringing of this kind is generally enough for them.

Diseased Apple Tree.—Please say what is the matter with enclosed leaves. The part above the break seems to be dead, while those below are all right. All apple trees about here are the same way, amounting to about one-sixth of the foliage. C. E. MCANINCH.
Hillsburg, Ind.

The specimen indicates to me the work of what is called the apple tree twig pruner, a larva which bores into young twigs, causing them to die and break off, just as your twig shows. There seems no way to prevent the attacks. By burning the twigs it lessens the number of insects for another year. These insect attacks come and go. For a course of years the insects seem to disappear, then for a few years they come again. It may be you won't see many evidences of their work next year.

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Horticultural Notes.

Osage Orange is hardly to be recommended for hedges, it is such a rampant grower, the roots taking so much space and food. Wire is better.

Porch Vine.—For a quick growing hardy vine for a porch, the Halleana honeysuckle is as good a one as can be planted. Start with one of these, adding other sorts to it as more are called for.

Increasing Roses.—Choice roses in the hands of amateurs can be increased by layering of the shoots in early summer. By fall they will be rooted, when they can either be let remain undisturbed, being well covered up for winter or taken up and potted. In the South ordinary cuttings set in spring does, but the cold winters of the North prevent it there.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Marketing Poultry.

It cannot be disputed that anyone who keeps a flock of poultry in even moderate numbers, whatever may be the purpose for which they are kept, will have more or less birds to sell for food. A writer in Commercial Poultry says: "If your objective point is for fancy purposes, you will lose nothing by culling closely, if for eggs, there will be the old hens and the surplus cockerels. One old man of my acquaintance has one pullet each year, and the rest of his birds are cockerels, no matter how many or how few they may be, and to those who partake of his luck the disposal of the surplus cockerels is quite a problem. Of course, if market fowls are the end in view, the best method of disposing of the produce is as important as the best method of producing the same. Make haste slowly, or at least make thorough preparations for the work you have set about by having your birds in the best possible condition. Many will say, 'I don't care a bit for a fat bird.' Very true, yet that same person will not buy a lean one if a fat one is in sight. Fatten your birds thoroughly on any good, clean, sweet food most convenient and profitable, remembering, however, that there is nothing yet discovered that will take the place of good yellow corn, either whole, cracked or ground into meal, or all three forms, for imparting that clear, beautiful yellow so much sought after. When your birds are ready, sell them, then kill them afterward. Our birds are usually sold a week in advance, and each bird is as carefully dressed as though designed for our own table. We cut off the head, apply a cleaning preparation which we consider indispensable, scald, then with a half dozen passes of the hands the fowl is divested of feathers, pin feathers and hair at one operation, having a smooth, perfect carcass with the skin free from abrasions or ragged places. We also draw, clean the gizzard, remove the gall bladder, and wash thoroughly to remove all blood from both carcass and giblets. Tie the wings close to the body, draw the skin of the neck over the end of the bone and tie, wipe out the inside with a clean cloth, turn the fat back from the opening cut through which to draw, and pin it on each side with wooden toothpicks, then hang up by the legs in a cool place over night. When ready to start to deliver, the legs are cut off at the knee joints, the requisite number of giblets put in each fowl, then it is weighed carefully and wrapped in clean, strong paper—not newspapers—and marked plainly with the name of the customer and the weight. We have never yet sold a fowl for less than 15 cents per pound, and from that to 30 cents."

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Seasonable Suggestions.

The Pigeon Loft.—It is not only in congregations of quadrupeds such as hogs, cattle, horses, etc., that we often find particularly vicious specimens; we also come across them in flocks of poultry, among hens, turkeys, and even pigeons. Farm Journal says in regard to pigeons: "There are bullies and brutes in the pigeon as well as human family. A male pigeon that is disposed to make himself a nuisance in fighting other old birds and killing squabs might as well be removed from the loft. If this is not practical, clip his wings and provide a nest for the pair on the floor."

For a Mating Pen get a box and put perpendicular slats on the front and through the middle. It should be large enough to make each apartment twelve or fifteen inches square, and one of the slats or dowels in the partition should be movable. The food and water vessels may be hung on the partition so that both birds may use them in common. If out of sight of their old mates it will not take more than two or three days for them to unite. The movable slat can then be taken away, and if the mating is permanent they may be turned into the loft to find a nest.

Feeds for Pigeons. — We like whole wheat best of all grains for pigeons. But there are many other grains which pigeons like and thrive on, among them common peas, barley, buckwheat, cow peas, soy beans, English horse beans, the various kinds of vetch, broom corn, sorghum seed, millet, and many others. A variety is, of course, always relished. Corn is a good feed when given in moderate quantities, especially during summer, and not as an exclusive diet. Pigeons also learn to eat boiled potatoes and other vegetables, soft mash such as we give to the hens, etc. For really fine, plump, fat squabs, wheat is hard to beat.

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Pointed Paragraphs.

Ventilation is absolutely necessary at all times, and particularly so in warm weather. Drafts, however, are often fatal to fowls, even in summer.

Whenever a Dozen Eggs, says the Farm Journal, sells for the price of a pound of butter, the man with the hens is ahead of the man with the cows.

Only by Ceaseless vigilance and effort can poultry roosts and nests be kept free from hen mites. Very few henhouses and roosting places in the country are entirely free from them.

For General Purpose Fowls, a good strain of Plymouth Rocks, or of Wyandottes are hard to beat. As layers, purely, especially during spring and summer, the Leghorns are probably at the head.

Sitting Hens are always liable to get lousy. It is easy enough to get rid of lice. Scatter a little tobacco dust into her feathers, especially over the neck and under the wings, or some buhach (insect powder). It will do the business every time.

Caponize Your surplus cockerels. The best time to do it is when the birds weigh about two pounds apiece, or even a little less. It is easy when you know how. I open them on both sides. Even the expert will find it difficult, in most cases, to remove both testicles from one side.

With the Advent of hot weather, it is important that the young stock be prevented from overcrowding. A large percentage of chicks in large broods where allowed to pass the nights in coops, barrels, etc., where they were kept with the old hen, die by suffocation during hot nights. Get them into the habit of roosting on perches as soon as possible.

Plump and Large Fowls.—The chick or fowl which most buyers in our markets desire is one which is plump with plenty of meat on the breast. In many birds the breast bones are too high, or too deep, and legs too long. W. R. Graham, the expert at Guelph (Ontario) College, says: "It is evident, therefore, that we must be careful in the selection of our breeding stock, and see that they are of a blocky type—wide and full in the breast, but only moderately deep. The back should be wide and not too long; the legs short and well apart. Our experience during the last few years has been that we have to be quite as careful in the selection of the females as in the selection of the males. Many a fine cock-bird has left badly shaped chickens when mated with the leggy type of females. As a rule, the birds that are plump when they weigh about five pounds never mature into large, heavy-weight birds. They are mature, or fully developed, at nine pounds or under. It appears to me that, to make the greatest possible profit, we need to develop strains (no matter what breeds) that will mature quickly, and be plump when weighing from five to six pounds each. My experience is, that to produce a ten or twelve pound male, we must have chickens with long bodies and legs, which are generally associated with deep breast bones. Where one has a good market for large chickens, there is no doubt that this class of birds will serve his purpose; but it is very doubtful if they are as profitable as birds of the blocky, quick maturing type."

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PROF. W. F. MASSEY, Editor.

Philadelphia, July 18, 1903

If a slick talking fellow rides around your way and makes you some sort of an unheard of offer and requires you simply to sign a paper for him, do not do it. If you want to be swindled, then sign papers for strangers, but if you would keep rid of swindlers never sign your name to anything for a stranger, no matter how innocent the paper looks, or what the man promises. Nine times out of ten you will find the innocent paper turning up as a note in bank. The safe rule for the farmer is to refuse to sign anything for a stranger.

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A New Outlet for the Products of the Farm.

The late report of the new Department of Commerce and Labor gives some interesting statistics in regard to the great increase of the shipments of American flour to China. While the total shipments of flour to China in 1892 were 471,408 barrels, they had increased in 1902 to 1,549,032 barrels; the total exportation of flour from this country in 1902 was 17,759,203 barrels. It is easy to see, then, the importance of the open door in China for American products. The more flour that is exported the greater demand on the farms for wheat, and the increasing liking of the Chinese for American flour is a matter of importance for our statesmen to consider. With Continental Europe erecting barriers against our products it becomes of very great interest for us to encourage the growing trade with the East, and to get and retain the control of the Pacific.

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Some of the farmers, in the South have already agreed to sell their prospective cotton crop at 10 cts. per pound, and a friend wants to know if he would be safe in doing likewise. Ten cents is a price at which a good farmer can make money in growing cotton. It seems to us that the present price is largely speculative. With cotton at 13 to 14 cents in New Orleans, and Northern mills shipping cotton South to sell because it pays better to sell it than to manufacture at present prices, it seems to us that many of the mills must stop, and with a decreased demand it is hard to see how the price can be kept up, and it is extremely doubtful if the farmers get ten cents a pound next fall, though with a small crop the speculators may run it up again after it is in their hands and out of the farmers' hands. If we were growing cotton and had an offer from a reliable party to take it at ten cents per pound, we expect that cotton would be sold.

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North Carolina Institutes.

The Country Gentleman has a report of the recent meeting of the Association of Farmers' Institute Workers held at Toronto, Canada, in which it is stated for North Carolina that a certain number of Institutes were held which were attended by the Veterinarian and the Entomologist. As the present Editor of the P. F. has lectured at nearly every Institute in North Carolina for the past fourteen years, and does not claim to be either a veterinarian nor an entomologist it would be desirable to know where he and others who have worked in these Institutes come in. North Carolina is not up with the States which have large appropriations for Institute work, since the Legislature of the State has never made any appropriation for the purpose. But as in other work, North Carolina manages to do more for a dollar than most of the States, and some day, when she wakes up to the importance of the Institutes the farmers may demand more recognition, and some real Institute work may be organized. Maryland, with 21 counties, gives $4,000 a year. North Carolina, with 97 counties, spends about $400 a year for Institute work and manages to hold about as many Institutes as Maryland. But Maryland recognizes that a laborer is worthy of his hire, while North Carolina gets the laborers to work for the love of the work and the hope of doing good. The able Veterinarian of North Carolina, Dr. Tait Butler, is doing excellent work, and the State has also an accomplished entomologist who might do good work in an Institute if ever called upon. The Editor of the P. F. has made, in the past fourteen years, between 300 and 400 lectures to farmers of North Carolina on agricultural and horticultural topics, and at times the State Chemist has done some valuable work. The Entomologist is perfectly able to help, and some day may do so, but it looks a little odd that the work in North Carolina should be credited to the Veterinarian and the Entomologist, only one of whom has worked in the Institutes to any extent, while those who have borne the burden and heat of the day are omitted entirely in the report at Toronto.

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Two Ways of Running an Agricultural Paper.

If you simply want to make money out of the farmer, buy up a lot of old cuts, no matter whether they are useful as farm matter or not, so they have trees and sheep and stock of other kinds in them. Then clip and steal from any paper under the sun matter good, bad or indifferent; it will generally be poor, as the editor probably will not know good from poor. Then accept every advertisement that will pay liberally, no matter whether it is a humbug or not so it brings in the cash. Then buy up from those who make a business of getting farmers' addresses thousands of addresses and send the paper, and show the advertisers that you are sending out so many thousands weekly or monthly, and you will probably make money and be the means of swindling thousands. There are so-called farm papers doing this very thing. But to run a real farm paper, which has for its object the development of the agricultural interests of the country, a far different plan must be adopted. Money must be spent year after year in excess of receipts for a time. The best of practical talent must be secured and paid what such talent demands. The readers of the paper must be carefully guarded against fraudulent advertisers, and the paper must be built up by degrees on its own merits until by force of sheer merit it becomes not only a valuable help to its readers, but fairly profitable to its owners. It takes years of experience and a liberal expenditure to build up a real instructive farm paper, one on which its readers can rely as a wise guide all over the land, and it takes faith in the farmer for the owners to make the necessary expenditure to build up such a paper. They could put far more money into their own pockets by yielding to the pressure to admit fake advertisements and swindle their patrons, and every farm paper that has been built up in the other way deserves the hearty support of the farmers of the land. This is what has been done with the P. F., and the thousands who write annually that the paper has helped them furnish the best evidence that the paper is on the right track. Then if the paper has helped you, and you find that its advertisers are reliable and do what they promise, would it not be to the advantage of your neighborhood if you could induce others to join the family and thus enable the owners to still further improve the paper? It is the ambition of the Editor and of everyone who helps to make the paper what it is to have it grow not only in circulation, but to improve in usefulness and interest. We want to make it a larger paper, a more and more interesting and useful paper, and the improvements in it will be made just as fast as the patronage warrants it. Hence to get the paper still further improved and of more and more value to you every effort you make to increase the subscription list will help to accomplish this. At this busy season of the year it may not be practicable to do any canvassing, but if in your talks with neighbors you mention what the paper has done for you it cannot fail to attract attention to it. We are working earnestly for the betterment of the farmer, and have a right to ask the farmers to help. This means YOU.

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The Importance of Air to Plant Roots.

Near where we now write there has been going on extensive building operations and the soil from the excavations for these was spread to aid in filling up a piece of low land near the buildings. On this land stood a splendid pine tree which was the picture of health when the filling in began. One autumn and winter were followed by spring, but the pine tree, instead of feeling the reviving influence of the springtime, dropped its leaves and gave up the struggle to live. It was not injured in the slightest degree, but it was simply smothered by having two or three feet of clay piled up around it and over its roots, shutting out the air from the roots. To a lesser extent this is just what thousands of farmers are doing to their corn plants. Piling up a heavy ridge of earth to bury the roots deeper than they would like, while at the same time cutting off the feeding tips of the rootlets which have ventured acrosss the middle of the rows. Burying part too deep for the best access of the air, and reducing the plant's capacity for getting food by tearing off the ends of the roots, the only part of the root that is engaged in getting food from the soil. The men who do this, do it simply because they and their fathers have always done so, and they ridicule the idea that they can learn anything about their business by reading what other men have found out to be a better practice. Talk to one of these corn field butchers and he will tell you that the men who write for the agricultural papers are only theorists, while he is a practical farmer, and takes no stock in these scientific theories. The only class of men in the world who steadily refuse to study their own business, and the only class who can survive at all with such lack of interest in improvement. The oxidation of the matters in the soil to prepare them for plant food can only be accomplished when the air, with its oxygen, penetrates the soil. Even a seed will not germinate without this oxygen. A common example of this is clover seed deeply buried by the turning under of the second growth. The field may grow a crop but the clover seed lies there, and when the land is plowed again and the seed brought up to the oxidizing influence of the air aided by heat and moisture, the result is a volunteer stand of clover. Three things are essential to the growth of roots or the germination of a seed, a temperature suited to the plant, the presence of moisture and air. If the soil is full of standing water, the air is effectively shut out, for it is not water that plant roots need, but moist air, and where the soil is covered with water the seeds, except of aquatic plants, will not only not grow, but will perish. In the Botanic Gardens of Ceylon they excavated mud from the bottom of a lake in the grounds, and with it formed an island, and let it stand to see what the growth would be. No plants whatever grew in the island until later on the seeds were brought from the uplands around by birds. Long covering from the air had destroyed all vegetable life in the mud.

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The Cream of the Bulletins.

Agricultural Experiment Station of the Rhode Island College of Agriculture and Mechanic Arts, Kingston, R. I. Bulletin 92. The Soy Bean. By G. E. Adams.

The soy or soja bean belongs to the great family of leguminous plants and is a native of Eastern Asia, having been cultivated for many centuries in China and Japan, where many varieties have originated. Though it was introduced to England about one hundred years ago, it did not attract much attention as a stock feeding plant. Though it has been grown to some extent for many years in the Southern States, it is only in recent years that its value has been appreciated. Many of the Experiment Stations have been studying the value of the plant and its place is now pretty well ascertained as a forage crop. The seeds of different varieties vary greatly in color from yellowish white to green, brown and black and of various shapes, generally round. On good soil some varieties will grow five feet tall. It is thought that its chief use in Rhode Island will be as a soiling crop, since by planting at intervals from May 20th to July 1st a supply of forage can be had throughout the late summer and autumn. The plant is rich in protein and makes an excellent balance for the corn crop. Soy beans may be used for silage any time from the appearance of the first blossom until the pods are nearly mature, and it makes an excellent material for putting in the silo with corn to increase the protein content of the silage. For hay, the crop should be cut as soon as the pods are well formed, as the leaves soon fall as the beans mature. But it is not considered that in Rhode Island its value as hay will be equal to its value as a soiling crop. Like most other legumes the soy bean has the power to get nitrogen from the air through the agency of the microbes that live in nodules on its roots, and the plant can be used like the other legumes in the improvement of impoverished soils. In the experiments at the Rhode Island Station it was shown that while nitrate of soda increased the yield of dry beans slightly, the yield of forage was lessened and the application did not pay its cost, as the plant evidently failed to do its work in nitrogen-catching when it was supplied in the soil. Where no nitrogen was given the yield was over 3,000 pounds per acre of forage and where 450 pounds per acre of nitrate of soda was applied the yield fell to 1,966 pounds of vines though the yield of seed was increased. Nitrogen increased the yield of the cow pea in Rhode Island. The soy bean there gave a heavier crop and one of greater manurial value than the cow pea. The plant will grow well on soils too poor to grow clover. A crop of soy beans plowed under would return to the soil as much nitrogen as is contained in 1,100 pounds of nitrate of soda per acre, potash equal to 230 pounds of muriate of potash, and as much phosphoric acid as was contained in 300 pounds of acid phosphate. These latter elements were, of course, taken in the first place from the soil, and are merely returned, while the nitrogen is a gain to the land. The bulletin wisely advises immediate liming of the land if the crop is plowed under to prevent souring. Far better feed the crop and return the manure. It is advised to plant the seed in drills two or three feet apart, or wider if seed is the object. The various methods to be used in harvesting are discussed. The writer of this would suggest that where the tall growing sorts are used, the corn binder is the machine to harvest the crop, leaving it in bundles to set up and cure like corn. The Medium Early Green is the variety advised for Rhode Island.

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500 lines, to be used within 1 year 20 per cent.
1000 lines, to be used within 1 year, 30 per cent.
2500 lines, to be used within 1 year, 40 per cent.
5000 lines, to be used within 1 year, 50 per cent.

On continuous insertions:

Three months (13 times) 10 per cent.
Six months (26 times) 20 per cent.
Nine months (39 times) 30 per cent.
Twelve months (52 times) 40 per cent.

☞The above schedule of Discounts cannot be combined. No ad. of less than four lines inserted.

CONTENTS

AGRICULTURAL.—Management of Stable and Yard Manure. — Health Hints. — The Great Causes of Ill Health, of not Feeling First Rate. 33
How Cotton is Grown in Mississippi Delta. — Getting Posted. — Learn from Others. 34
QUERIES. — Sassafras Sprouts. — Improving a Pennsylvania Farm.—Tomato Blight. — Sowing Wheat.—Grasses for Name.—Plant for Name. 35
LIVE STOCK AND DAIRY.—Improving Poor Land Through Grazing.—Soft Corn Gives Good Results.—Feeding Alfalfa Hay. 36
VETERINARY.—Lock Jaw. — Chronic Constipation.—Crooked Tail.—Indigestion.—Feeding Peas to Horses.—Injured Cow.—Lameness.—Crooked Tail.—Navel Infection. 37
GARDEN.—Small Fruits for Money.—Talks on Timely Topics. — Squash Growing for Money.—Notes from a Carolina Garden.—Points and Pickings. 38
HORTICULTURAL. — Strawberry Runners.— Bigarreau Cherries.— Horticultural Queries. — Clover in Orchard.—Green Fly.—Diseased Apple Tree.—Horticultural Notes. 39
POULTRY.—Marketing Poultry. — Seasonable Suggestions.—The Pigeon Loft.—For a Mating Pen.—Feeds for Pigeons.—Pointed Paragraphs. 39
EDITORIAL. — A New Outlet for the Products of the Farm.—North Carolina Institutes.—Two Ways of Running an Agricultural Paper. — The Importance of Air to Plant Roots. 40
CREAM OF THE BULLETINS. 40
COMMERCIAL. 41
HOME CIRCLE.—Prize Offer.—All in a Lifetime, Part 2.—In the Kitchen.—A Way to Have Nice Fruit. 42
Home Comforts.—Along the Lines.—Correspondence.—Youth's Parliament. 43
OUR EXPERIENCE POOL.—Topic No. 581.—Is it Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in One? 44
FARM IMPLEMENT ANNEX.—A Farm Work Shop. — Keeping the Guards Tight.—Plow Cutter.—Fodder Cutter.—The Disk Plow.—Roller and Pulverizer.—Fence Loom.—A Repair Shop.—Arrangement of a Chute.—Success with Oil Stove. 45
SHORT CUTS BY P. F. SUBS.—Swinging Hen Roost.—Leaking Vessels.—A Handy Ladder.—Keep the Birds Out.—Saving Seed Corn.—Various Knotty Problems.—Fertilizer Sacks. Oil Can Holder. — How to Stretch Barb Wire.—To Lead a Hog.—Controlling Grasshoppers. — Carrying Water Bottles.—Various Domestic Hints.—Increasing the Egg Yield. 46

A Deserved Recognition.

Disinterested testimony as to some of the P. F. publications may be found on page 34, to which we refer our readers. Mr. Hutchins tells the truth. Friends, in reading our commendation of the books published by The Farmer Co., might think that we were talking from the publishers' standpoint and in their interest. But Mr. H. is free from that suspicion. The books he mentions are worthy of all the good things he says of them. We remember that one reader of "Our Farming" characterized it as being as fascinating as a novel, and it was not a far-fetched comparison. But while it has the fascination of the novel it has something better, the interest which attaches to the overcoming of obstacles in real life, and the value which comes from plain directions by which every farmer can get the most out of his soil and surroundings. Prof. Massey's book, "Crop Growing and Crop Feeding," is equally worthy of the good things said of it. We do not know of another book which covers such a wide range of farm topics treated in the same common sense, practical, and yet scientific method. We do not hesitate to say that both of these books should be in the hands of every farmer in the United States, and that through study of their pages and the intelligent application of their teachings, agriculture in this country would experience a mighty uplift.

COMMERCIAL

Philadelphia July 11, 1903.

WHEAT.—

No. 2, old, red	80½	@	81
No. 2, old, Penna. and Del.	81½	@	82
No. 2, red, July	79	@	79¼

CORN.—

No. 2	56	@	56¼
No. 2, yellow, track	59		
No. 3	52	@	52¼

OATS.—

White natural, no grade	44		
White clip., natural, no grade	44½		
No. 2 white natural	45½		
No. 2, white natural, clipped	45½	@	46

LIVE POULTRY.—

Supplies of fowls were moderate and the market ruled steady, with a fair demand. Spring chickens were quiet and weaker, with more liberal offerings. Ducks were in small supply and quiet at former rates.

Fowls, hens, per lb.	13½	@	14
Roosters, per lb.	10		
Spring chickens, per lb.	15	@	18
Spring ducks, per lb.	13	@	14
Old ducks, per lb.	11	@	12

DRESSED POULTRY.—

There was a fair demand for choice fowls prices of which ruled steady under light offerings. Broiling chickens were quiet and easier, with more liberal offerings. Many of the receipts of fowls and chickens were in bad order as a result of the hot weather, and this class of stock had to be sold at best rates obtainable.

Fresh killed fowls, choice	13½		
do do do average	16	@	18
do do old roosters	10½		
do do broilers, nearby	20	@	24
do do do Western	20		
do do average	16	@	18

BUTTER.—

Receipts, 3,890 tubs, 940 boxes. Receipts of Western creamery were liberal, but buyers were showing increased interest in fine goods, supplies of which were pretty well cleaned up at steady prices. Defective qualities were plentiful and sold slowly at inside quotations. Imitation creameries and ladles were in small supply and quiet at former rates. Receivers were able to keep the arrivals of fancy prints well sold up, and prices of this description ruled steady, but faulty goods, which comprised a good deal of the supply, were dull and weak.

Western creamery, extra	20½	@	21
Western creamery, firsts	19	@	20
Ladle packed	15	@	17
Prints, nearby, extras	21	@	22
Prints, Western	18	@	21

EGGS.—

Receipts, 2,903 crates. The market continued dull and weak under liberal supplies. Most of the latter consisted of heated and otherwise defective stock, which holders were pressing for sale at best rates obtainable.

QUOTATIONS AT MARK.

Nearby fresh, ret'bl crates	17		
Western, choice, free case	16½	@	17
So. Western do do	15½	@	16
So. choice do do	15	@	15½

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 3,858 boxes. Demand was light and the market was a shade easier under liberal offerings and weaker country advices.

N. Y., f. c. small—			
New, choice	10½	@	10¾
Fair to good	9¾	@	10¼
State, part skims, prime	6	@	8

GREEN FRUITS.—

Strictly choice apples were wanted at outside rates, but supplies were mostly of unattractive fruit, which was dull and had to be sold at low figures. Small fruits were in fair supply and demand at quotations. Receipts of watermelons were light and the market was firm, with a good demand. Choice canteloupes and peaches were in good demand and firm, but offerings were largely of unattractive fruit, which had to be sold at inside rates.

Raspberries, black, pt.	3	@	4
Raspberries, red, pt.	4	@	6
Gooseberries, per qt.	6	@	8
Blackberries, per qt.	3	@	7
Currants, N. Y., qt.	6	@	9
Peaches, Ga., carrier	1.00	@	2.50
Plums, Ga., 6-bas. carrier	1.75	@	2.50
Watermelons, Fla., car	175.00	@	325.00
Canteloupes, Fla., per crate	1.50	@	2.50
Ga. & N. C., per crate	3.00	@	3.50
Pineapples, Fla., crate	2.00	@	3.00
Whortleberries, per qt.	8	@	11

APPLES.—

Del. & Md., new, ½-bbl. bas.	60	@	1.00
do do do per bbl	1.50	@	2.50

POTATOES.—

The market for white potatoes was again a shade firmer under light receipts and a good demand. Sweets were dull and supplies, though small, were ample.

White, So. Rose, pr., bbl.	2.50	@	2.75
do do do md., bbl.	1.75	@	2.00
do do Chili, No. 1, bbl.	2.00	@	2.25
do Jersey, per bas.	50	@	55
Red So. Chili, No. 1, per bbl.	1.75	@	2.00
do do do md., per bbl.	1.25	@	1.50
Sweets, Jersey, per basket	40	@	50

BEANS AND PEAS.—

Supplies were small: market steady.

Beans, marrows, H. P., bu.	2.60	@	2.65
Pea beans, H. P., 1902, bu.	2.35		
Red kidney, 1902, bu.	2.90	@	3.00
Green peas, per bu.	1.60		
Scotch peas, per bu.	1.65		

COTTON.—

There was a further drop of 50 points in spot cotton due to free speculative selling in Liverpool and home markets. Spinners were holding off. We quote on a basis of 11.60c. per lb. for middling uplands, cash terms.

Cotton, per cwt. 11.60

FEED.—

Feed was quiet and barely steady, with ample offerings.

Bran, bulk, winter, per ton	19.00	@	19.50
Bran, sacked, spring	19.00	@	19.50

HAY AND STRAW.—

Receipts, 540 tons of hay and 4 cars of straw. The market for hay was 50c. per ton lower under a light demand, more liberal receipts and increased pressure to sell. Straw continued scarce and firm.

Timothy, N. Pa., No. 1, l'g.	21.00	@	21.50
do Western	20.50	@	21.00
Timothy, mixed Western	15.00	@	18.00
Straw, straight rye	18.50	@	19.50
Oat	10.00	@	11.00
Wheat	10.50	@	12.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade easier.

Extra steers	5½		
Good steers	5	@	5¼
Medium steers	4⅞	@	5
Common steers	4½	@	4¾

CALVES.—

Veal calves fairly active.

Extra calves	6¾	@	7
Fair to good	5½	@	6½
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs slow.

Fat hogs, Pa., Del.	6¼	@	7½
Fat hogs, Western	8¼	@	8½

SHEEP.—

Sheep steady. Lambs active.

Sheep, extra	4¼	@	4¾
Sheep, good	3¾	@	4¼
Sheep, medium	3	@	3½
Sheep, common	2	@	2½
Lambs, spring	5	@	7¼

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New York, July 11, 1903.

WHEAT.—

Marked strength and an advancing tendency were the prominent features of the markets, with all grains showing substantial gains. Wheat was firm early on reports of hot winds in the Northwest and the fear of resulting damage therefrom, as reports from the Red River Valley have within the last day or two been less encouraging. The Northwestern markets were also strong and led in the advance the fore part of the session, thus indicating that all was not right with the spring wheat. Further reports of disappointing yields were received from the harvesting fields, which fact was also touched upon by the weekly Government weather report. Southwest was reported to be buying in Chicago, probably on the light threshing returns. A prominent factor was the Iowa crop report for July, showing the condition of spring wheat 9 per cent. below that of a year ago at the corresponding time. The Illinois weekly crop report was also bullish and added to the growing friendly sentiment. The strength in corn was also an extremely important feature during the entire session, contributing not a little to the strength in this market. The crowd continues to talk a very little bullish Government report, and the State reports already to hand would tend to bear out this assumption.

No. 2, red	85⅞
No. 1, No. Duluth	93⅝

CORN.—

Corn was the leader in grain markets the trade being active and the pit well filled all the session. The governing factor continues to be the talk of the backward crop, the stunted and in places weak plant and fears that the perfect weather needed to make even an average crop will not be forthcoming. The country at large is apparently getting bullish on the prospects, too, as Chicago reported heavy buying from this source all day. A very bullish sentiment pervades the trade and the Government report is expected to show a comparatively low condition. The latter will probably represent to a degree bullish conditions that do not now exist. This is shown by the more favorable Government weekly weather report issued last week.

No. 2	58½
No. 2, f. o. b.	59⅜
No. 2 white, f. o. b.	59½
No. 2 yellow, f. o. b.	59½

OATS.—

Standard white	45
No. 2, white	45½
No. 2, white clipped	46
No. 2 mixed	43
No. 2, mixed clipped	43½
No. 3, mixed	42½
No. 3, white clipped	45
No. 3, white	44½

HAY AND STRAW.—

Timothy, large bales, cwt.	1.25		
No. 1	1.10	@	1.20
No. 2	95	@	1.00
Clover, per cwt.	55	@	85
Straw, long rye, per cwt.	90	@	1.00

BUTTER.—

Creamery—			
Firsts to extras	19	@	20½
Ordinary	16½	@	18½
State dairy, fresh, tubs—			
Firsts to extras	18½	@	20
Ordinary	15½	@	18
West. Imitation Creamery—			
Finest	18		
Ordinary	16½	@	17½

CHEESE.—

State, f. c., small, extra	10¼		
Fair to prime	8½	@	10
Large colored, extra	10¼		
Large white, choice	10¼		
State, light skims—			
Choice	8½		
Part skims, prime	6½	@	7
Full skims	2		

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—			
Fancy selected white	19	@	19½
Fresh gathered, extras	18½		
Fresh gath'd, 2nds to 1sts	15½	@	17
Western—			
Fresh gathered, extras	18	@	18½
Fresh gathered, firsts	16	@	17
Dirties, fresh gath., No. 1	12	@	13½

LIVE POULTRY.—

Spring chickens, nearby, lb.	15		
Western, per lb.	15		
Southern, per lb.	14		
Fowls, per lb.	12		
Roosters, per lb.	7½		
Turkeys, per lb.	12		
Ducks, average, pair	60	@	90
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	25		
Live pigeons, young, pair	20		

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys—			
Average best, per lb.	13	@	15
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	24	@	25
State & Penna., 3 to 4 lbs. to pair, per lb.	18	@	19
Balt., d. p., 2 lbs., per lb.	17	@	18
Western, d. p., per lb.	15	@	16
do scalded	14		
Fowls, West., scald., sm., fcy	12		
Dry picked, small, fancy.	12		
Southern & So. West., d.p.	12		
Scalded	11½		
Spring ducks—			
Long Island, per lb.	18		
Eastern, per lb.	18		
Jersey, Pa. & Va., per lb.	17	@	17½
Squabs—			
Prime, large, white, doz.	2.50	@	2.75
Mixed, per doz.	2.25		

FROZEN.

Turkeys—			
Young hens & toms, No. 1	17	@	19
Broilers, d. p., No. 1	19	@	21
Broilers, scalded, No. 1	16	@	18
Capons, choice, heavy	21	@	22
Medium size	19	@	20

APPLES AND PEARS.—

Apples—			
Russet, per bbl.	2.25	@	2.50
Baldwin, per bbl.	2.25	@	2.50
Ben Davis, per bbl.	2.50	@	2.75
Southern, new, basket	20	@	40
Southern, new, bbl.	1.00	@	1.75
Pears, LeConte, per bbl.	2.50	@	4.25

GREEN FRUITS.—

Pineapples—			
Indian River, 24s	2.75	@	2.80
Indian River, 30s	2.75		
Indian River, 36s	2.50	@	2.65
Muskmelons—			
So., crate, large, selected.	2.50	@	3.50
California, crate	6.00	@	8.00
Watermelons, per 100	20.00	@	30.00
do per car	175.00	@	275.00
Peaches—			
Ga., average, carrier	1.75	@	2.25
Elbertas, per carrier	2.75	@	3.00
Belles, carrier	2.50	@	2.75
Plums, Ga., carrier	2.50	@	3.00
Strawberries, per qt.	9	@	15
Blackberries, N. J., per qt.	10	@	12
Maryland & Delaware	6	@	10
Huckleberries, large blue, qt.	10	@	13
do small do qt.	7	@	9
Gooseberries, per qt.	5	@	7
Raspberries, Del. & Md., pint	3	@	6
Jersey, per pint	3½	@	6
Black caps, per pint	3½	@	4
Currants, per qt.	7	@	9
Cherries, white, per basket	35	@	50
Black, per basket	65	@	75
Sour, per basket	45	@	50

VEGETABLES.—

Cabbage, Baltimore, per bbl.	1.00	@	1.25
Long Island, per 100	6.00	@	8.00
Flat Dutch, per 100	1.25		
Cucumbers—			
Florida, crate or basket	75	@	1.00
Charleston & Sav basket.	75	@	1.25
Norfolk, bbl.	1.25	@	2.00
Eggplants, per box	1.50	@	2.00
Green corn, per 100	1.00	@	2.50
Lettuce, nearby, per bbl.	1.75	@	2.25
Okra, carrier	2.00	@	2.50
Peas—			
Western N. Y., basket	1.25	@	1.50
L. I. and N. J., bag	1.00	@	1.25
String Beans—			
Nearby, ½-bbl. basket	1.00	@	1.25
Wax	75	@	1.25
Squash, So., white, bbl. crate	1.00	@	1.25
Marrow, bbl. crate	1.25	@	1.75
Turnips, white, 100 bunches	1.50	@	2.00
Russia Turnips, bbl.	1.25	@	1.50
Green peppers, Fla., crate.	1.50	@	1.75
Onions—			
Bermuda, crate	1.50	@	1.55
Egyptian, bag	1.85	@	1.95
Yellow, basket	50	@	60
White, basket	60	@	75
Texas, Bermuda, crate	1.60	@	1.75
Kentucky, bbl.	2.50		
Tomatoes—			
Southern, carrier	50	@	75
Crystal Springs, trays	55	@	65
Texas, trays	60	@	70
Jersey, per box	1.25	@	1.50
Norfolk, per carrier	40	@	60

POTATOES.—

So. Rose & Hebron, No. 1 bbl	1.75	@	2.75
White Chilis, No. 1, bbl.	1.50	@	2.50
Red Chilis, No. 1, bbl.	1.50	@	2.25
Seconds, bbl.	1.00	@	1.25
Culls, per bbl.	75	@	1.00
Sweets, East. Shore, bbl.	1.00	@	2.00
Jersey, per basket	1.00	@	1.25

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@33
X	28@30
Medium	30@32
Quarter blood	28@30
Common	20@23

UNWASHED (light and bright.)

Fine	20@23
Medium	23@24
Quarter blood	23@24
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@18
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaines	33@35
Washed medium	32@33
Washed low	30@32
Washed coarse	28@30
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	21@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest—something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

◆

All in a Lifetime.—Part 2.

VELMA CALDWELL MELVILLE.

Could Jeff Greely have known, as he tramped nervously about the little grove, that the object of his thoughts was sitting in a tumbled little heap just inside the window opening toward the grove, and that she was thinking of him and the coming picnic, and that now and then a tear fell, in the dark, on the crumpled sheet of perfumed note paper she held in her hand, the morning surely would have found him with her, if he had not, indeed, appeared below the window just then. And could she have but recognized him among the fleeting shadows she would doubtless have stolen out and then and there besought reconciliation; but each thought of the other as cold and relentless, and neither was willing to take the first step. And so it is, has been and ever will be; countless numbers going through life heart-hungry because of a foolish pride.

However, when Jeff left the grove his mind was made up to see Patty Pearl in the morning and run the risk of a repulse, while she had determined to say "no" to the perfumed invitation from the village doctor, and stay at home. But things rarely look to one by morning light as they do in the peaceful night hours. The sun comes out with such a glow; sentiment and the good angel seem to fly away together. All the hardness and reality in life stands out prominently. Another busy day is before us. All the softness of mood and hopefulness of mind is gone.

How many good resolutions have withered in morning sunlight! Jeff went moodily to his work; Patty Pearl listlessly to hers, and before night she had sent her tardy acceptance to Dr. Glen and Jeff had decided to ask Katie Carson, a fat little chatterbox for whom he cared not a bit.

The all-important picnic day came in due time and Patty Pearl, in a fresh muslin gown and big white hat was conscious that she was looking her best—and that was something bewitching—but she hardly knew whether she was glad or sorry. Certain it is that it was Jeff she had in mind, not her escort, as she finished her toilet and gave a satisfied smile at the reflection in the glass. This morning she was radiant, just why she could not tell, but had she analyzed her feelings closely she would have found that the knowledge that she would see Jeff, and the hope that something might happen that would end in a "make up," was the keynote to her happiness. The ride to the picnic grounds was a most delightful one. The doctor drove a spirited horse; was himself stylish and exceedingly attentive. People thought she had broken with Jeff to win him; they envied her and believed her happy. Jeff thought all this himself. Well, wasn't she happy? With the exhileration of the ride, the music, the crowd, the morning breezes, she fancied she was for a time. The meeting with her old lover was still to come, and for the time being she felt a keen satisfaction in the thought that he would know she was not dying for him. Jeff was always one of the "marshals of the day;" drove a fine team and wore a red sash. How proud and buoyant she had felt the years before, as she sat by his side sharing in his honors. She was "half wild," as she admitted to herself, to know who he would have today.

Suddenly, just as they turned into the grounds, his well-known turnout dashed past them. Instantly she recognized Katie Carson's giggle and then she saw her looking up into his face. For a moment her heart seemed to cease its beating, and she felt herself going cold; then the reaction came; she swallowed hard and straightened up with a tenseness that did not leave her all day. She wondered why it had shocked her so, this seeing him with another; she had known he would have somebody; that is she told herself so, and tried not to remember that in her heart she had indulged the hope that he would come alone. He could have as well as not; a mounted marshal always appeared to better advantage than one in a buggy.

The swings were one of the chief attractions at the mid-summer picnic. Patty Pearl had a passion for swinging, or always had had, when it was Jeff Greely's strong arms that pulled the rope. Nor was she alone partial to his swinging. The girls all said he had the steadiest hand and the greatest caution of all the stalwart swains of Westover neighborhood. But today she avoided the part of the grounds where the swings were, contenting herself—to all appearances—with promenading with, or sitting beside her escort, and smiling with well-feigned amusement at his flow of small talk. But furtively she watched Jeff Greely and wondered if he was as indifferent and jolly as he seemed to be.

The doctor being somewhat of a stranger, the couple was left much to themselves, but Patty Pearl did not mind this today, though another time it would have been a grievance. But by and by their promenade brought them within hailing distance of the swings and Cetta Waddle called out:

"Come, Patty Pearl, 'tis your turn."

"Don't you want to?" queried the doctor.

"I don't think I care about it—" she began, then catching sight of Katie Carson's face something induced her to add hastily: "But after all I guess I will."

Jeff was holding the rope. For a moment he contemplated tendering it to the doctor, but a titter among the girls nerved him to step forward, assist Patty Pearl to securely seat herself and then calmly propound the ussual query:

"Want to go high?"

"Very high," was the emphatic answer.

"She is not afraid with a doctor at hand," laughed Katie.

The rule was to make twelve turns with each fair one, but Jeff must have made a miscount, the girls said, for it was only after fourteen runs that he slowed down the swing and made a step forward to assist the girl to alight. But Dr. Glen was before him and by the time the "swim" had gone out of Patty Pearl's head, so she could see clearly, he was answering some badinage of Katie's. And so they parted again.

It was a weary, wretched maiden who occupled Patty Pearl's little white bed that night. Vainly she tried to extract some comfort from Aunt Ruth's saying: "All in a lifetime," but when the morrow dawned the lifetime stretched out before her like a level waste, barren and unendurable. There would be nothing else going on until fall but the semi-monthly sewing circle's meetings, and Patty Pearl determined to absent herself from these. She courted solitude, and perhaps it was as well for the Westover neighborhood afforded more of that than anything else. Dr. Glen came out promptly on Sabbath afternoons and took her for a ride, ate supper with she and Aunt Ruth and "the man," and then drove away. Not very rapid wooing, but he was inexperienced and so badly in love with the girl that just to look at her for an hour was joy enough for a whole week, no matter how unresponsive she was, and she was unresponsive to the verge of frigidity when they were alone.

She vaguely wondered sometimes if she would ever learn to love him, or if she should some day marry him trusting that love would come naturally with the years. She was old-fashioned enough to believe that all wives love their husbands; that it somehow comes natural. There was but one thing that comforted her; that was that since the picnic Mrs. Waddle complained that Jeff paid no attention to anybody.

"Jest stays at home and grinds."

It was the grief of the woman's life that she was unable to read this neighborhood sphinx.

(To be continued.)

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In the Kitchen.

Mrs. G. R. Hunt writes: The kitchen should be the most attractive and convenient room in the house, and the way to have it so is to have plenty of room. Have a roomy closet, or, better still, a pantry, and have a place for everything, and everything in its place. (I can go to my kitchen in the dark and get anything wanted.) Keep plenty nice dishcloths in a handy place, and, above all, plenty of cooking vessels, such as pans, buckets, stew pans and so on. Give the kitchen plenty of light. Have screens to keep out flies, bugs and chickens, and cooking will be a pleasure instead of a drudgery. Have a large wood-box with a lid and cover the top; also a box fixed the same way for the slop bucket. They make good seats when shut. Keep papers to tack on the paint where tins and the like are to hang. Have a long table in the kitchen. Let the oilcloth extend up the wall, say 8 inches. Tack from two to four inches all across. This makes a nice place for kitchen knives and forks and spoons, and such things that cannot be hung up. Have dark shades at the windows and darken up the kitchen when not using it. Wash the stove after each meal with clean soapsuds. This keeps the grease from burning and looking rough. Have matting or some good carpet on kitchen floor (I have nothing). It lasts well and saves hard scrubbing. Don't cook on such and such a day; do baking when needed. Keep cookies in a stone jar with lid. Cakes and light bread keep a week in an air-tight tin cake cabinet. I do my baking on Friday for Sunday, and have plenty left to run through the week unless we have extra company. Have dark matting on dining room, dark shades and lace curtains. Have safe or china closet and sideboard. I have one my husband made, which is very nice. Where there is a dining room fireplace, line the fireplace with newspapers and put three inches of sand in the bottom. Wet this and it is a nice, cool place to keep milk and butter. Pictures for the dining room should be flowers and fruit. A preacher said to me not long ago, when dining with us, that he did love to look at my pictures of flowers while eating. They seemed to improve his appetite. Keep table set and cover with a white spread, and your dining room and kitchen will attract attention, and the housewife will receive the praise. I think the P. F. is the greatest household paper in the world. I save mine and am going to make a book of them.

W. H. Bramhall, Lime Hill, Pa., sends the following recipes:

NEW ENGLAND PUDDING. — One cup of molasses; one cup sweet milk; one cup suet or one-half cup butter; one cup raisins, seeded, chopped; two cups flour; beaten yolks of two eggs; one teaspoonful soda; a little cloves, nutmeg and cinnamon. Put in baking powder cans and steam from 2 to 3 hours.

SAUCE FOR SAME. — Whites of two eggs beaten to a froth; ten tablespoonfuls of powdered sugar; one-half cup sweet cream; two teaspoonfuls each of vinegar and vanilla. Beat thoroughly after adding each ingredient. This makes enough for quite a large family and is excellent.

DESSERT.—Whites of three eggs; six tablespoonfuls powdered sugar; three tablespoonfuls currant jelly or jam (any other fruit may be used). Beat whites to a stiff froth, add sugar, beat five minutes; then add the fruit, beat well and set in a cool place. Serve with following sauce: Yolks of three eggs; one pint milk; two tablespoonfuls sugar. Beat yolks light, add to them one-half of the milk When the other half boils stir in the egg mixture. Cook two minutes, add sugar and a dust of salt.

A Way to Have Nice Fruit.

C. S. LOONEY.

The first and most essential requirement in the growing of small fruits (or any kind for that matter) is the determination to succeed, or at least never give up until you have accomplished everything in your power, then it will be very seldom that Providence will treat you so very badly. I believe there are some kinds of small fruit for every place, if anyone will find out what they are and that they can be raised with comparatively little trouble, counting the value they will be to any family. But if you have never raised any, and are not determined to succeed, you had better not spend your money for plants that the weeds, insects and other things may completely destroy in a short while, and if you happen to fail your first time it may be the means of keeping yourself and family out of one of the best enjoyments of the farm. But, on the other hand, if you are determined to succeed and do have some nice fruit one season, you will be an exception if you do not eat fruit each season the rest of your life. Now, having determined to succeed, I would say only buy a small lot of each kind of plants you care to raise; something like 100 strawberry, 50 raspberry, one dozen grape and other things in proportion, then you will not have a large lot to care for, and you can study their way of growing and know how better to work the next season. First, set out a strawberry patch, and I would say for anyone not familiar with their habits, to set them in rows about three feet wide and one and a half feet in the row. Keep all runners cut until July (in this section) then turn enough along the row to make a full row of plants in single row. Keep the rest cut off until the growing season is past, and some time before they begin growing in the spring cover between the rows with straw, leaves or anything handy to make a good mulch and keep weeds down and a nice place to crawl over to pick the berries. After you have eaten them one season, you will try and learn more about how to grow more and better ones, and perhaps will want to change your method of growing, as there are many different ones that are all good and only want to be practiced by the beginners to be successful. After the strawberries I would put red raspberries (as the blacks do not do well here with me), then grapes (early, medium and late kinds). Anyone having a taste for the work and country where the other small fruits grow well, can add to suit their fancy and needs. The first three, strawberry, raspberry and grapes, will give you a full season of nice fruit, and I would insist on bringing part, if not all of them into bearing before putting out any more, as I think any beginner will come nearer giving the few the care needed to raise good fruit and be better pleased with the results than to have a lot of uncared for plants and a chance of inferior fruit, if any at all. Now anyone who can read and work (not write this time) can learn every detail by studying the P. F., and can get a catalogue and find every plant needed at a very reasonable cost, delivered at their postoffice. At least this is the personal experience of one of your readers who is not without the delicious fruits any more.

Franklin Co., Tenn.

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will be sent absolutely free to anyone answering this advertisement without deposit or advance payment of any kind, freight paid, on 30 days' trial. The 1900 Ball-Bearing Washer is unquestionably the greatest labor-saving machine ever invented for family use. **Entirely new principle.** It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery. It revolves on **bicycle ball-bearings**, making it by far the easiest running washer on the market. No strength required, a child can operate it.

No more stooping, rubbing, boiling of clothes. Hot water and soap all that is needed. It will wash **large quantities of clothes** (no matter how soiled) **perfectly clean in 6 minutes.** Impossible to injure the most delicate fabrics. As the Sup't. of the Savannah Yacht Club says:

"It is a wonder. Our washing is very large and we have always had two women on Monday and one on Tuesday. Our cook and the yard boy **now do** *the washing in 4 hours much better than before."*

NEWMAN, Ills. July 5, 1900.

I can testify that the 1900 is the best washer and the easiest running machine. It will **absolutely clean** the clothes, cuffs and bottoms of ladies white skirts better than can be done by hand. The washings that took my wife from 5 to 7 hours to put out by hand, can easily be done in 2 hours. R. A. SKINNER.

KENSEE, Ky., March 21, 1900.

I did a double washing for myself yesterday and made 65 cts. from my boarders, besides all my cooking, milking and housework. It takes less soap with your machine than in the old way. I have no need of the washboard any more. MRS. L. A. BARTON.

ONALASKA, Wis., Jan. 4, 1901.

We are a family of 5 and as I had a 3 weeks' wash it was an immense one. Had it all out in 3 hours and never had nicer looking clothes. I did not even put my hands into the water. I cannot too strongly recommend the "1900" washer. MRS. J. M. WILSON.

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Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

Home Comforts.

MRS. S. E. WOLFE.

I hardly know how to approach this subject, it can be looked at in so many different ways, for what would be a comfortable home for some persons would be not even a stopping place for others. After years of observation I have decided it is not so much what we have as what we are, that makes a comfortable home. I have been into homes, or rather houses, that seemed to have everything that heart could wish, within their walls, but there was a spirit of unrest there, and everyone was under a pressure. In one of these, to my sorrow, I found that the father was a confirmed drunkard, and in that house of plenty there was no home comfort. In others I have found such a spirit of jealousy and strife that there was none of the true home feeling, so I think we will have to look for the home that lives out the thought, "Be ye content with whatsoever ye have."

Now to the question, "Home comforts and what do they consist of?" System in work and play, good literature, education, thrift, neatness, beauty, efficient help, music, amusements, more company for old and young, handy utensils for making work easy, a good wife, a kind husband and happy children.

Who has the most of them? I do not know, but I do know who should have the most of them, and that is the farmer in this day and generation. He should raise all the fruits and vegetables that city folks have to buy; he should have a good team and take his family out to drive, which city folks cannot afford to do, many of them, at least; he should see that he has rural delivery; he should work for the trolleys so he can get his produce to the cities; he should have a telephone so he can take advantage of the markets; in fact, if he wants home comforts he must be a manly man—up to the times, progressive, alert—not a stick-in-the-mud kind of a man. You show me a man who will oppose rural delivery or trolleys, etc., and I would not have him on a farm that I wanted to improve. I had a lot on my farm that had not been plowed for over thirty years, I was told, and when I wanted it plowed the man said, "Why it is down now; what do you want to plow it up for?" And this is the trouble with many of the Connecticut farms now, and the cause of lack of home comforts many times. My brother was going through the town of Union one day; he saw a farmer sitting on the fence whittling. He entered into conversation with him in regard to the neglect of the places around there, and asked why did they not improve them. He, the man, looked up and said laconically: "Well, mister, it's darned hard work, you know."

Tolland Co., Conn.

Along the Lines.

Ethel C. Avery, Philadelphia, writes: A novel incident happened the other day at the meeting of the National Liberal Federation at Scarborough in England. A prominent Liberal, Mr. John P. Thomasson, sent a subscription of $12,500 to the campaign fund, on condition that, when the resolution in favor of "one man, one vote" was under consideration, the president should re[illegible] to the meeting a letter from him in behalf of the ballot for women. The president said he would gladly read any number of letters on those terms. Accordingly, when a resolution was moved in favor of manhood suffrage, the abolition of plural voting, and other reforms said to be needed in order that the House of Commons might "contain a more effective representation of all classes," the president read out Mr. Thomasson's vigorous utterances. He wrote in part: "My object is to protest against a sex qualification as repugnant to the principles of justice. Gladstone said that 'justice is the rarest of all virtues, the most precious, the least valued.' If Parliament passes laws restricting women's right to labor, to the custody of their children, and lays down conditions of marriage and divorce which they are bound to obey, justice demands that women shall have a voice in the passing of those laws."

Mrs. Swan, of Bristol, supported the resolution in the name of the Women's Liberal Federation, and said the women were united in their desire for electoral privileges. Miss Garland, of Plymouth, said she would not waste time in preaching to the converted. The Liberal women would help the men at the next election, if they would go for "one man, one woman, one vote." This was received with cheers, and the resolution was at once adopted.

Rev. Frederick B. Allen, Boston, writes: Under a representative government, the execution of law is absolutely dependent on public sentiment. We may have any amount of good legislation on the statute books, but it is ineffective and futile if not sustained by public sentiment. But who forms this public sentiment that stands behind the law? Ask the policeman, or anyone concerned in law enforcement, and he will tell you the public sentiment which counts is that which is recorded by the ballot. But half the community is silent when these questions are decided. In many of these fights for righteousness which the Watch and Ward Society has waged, I have longed deeply that the wives, mothers and sisters might have a vote. I will not say that they have not influence now, but it is imperfect, inadequate and indirect. As a rule, men manage the business, and women the homes; therefore men see that the laws relating to property are sharply and strongly carried out, but the laws relating to the protection of the home and of public morals are ineffectively enforced. If women could vote, I am sure that this other part of legislation would be carried out also. At present, if a man steals, the police chase him from the Atlantic to the Pacific. If he only ruins the daughters of the poor, he is not pursued with half the zeal or severity. But it is said that women are not all good; that many women would turn out to defend the saloons and other evil resorts. Now, I am not worrying about the bad woman. In the saloons there are nine men to one woman, and in the churches two or three women to one man. I have no fear of any incursion of evil if women were allowed to register their moral earnestness at the polls. I advocate the ballot for women not so much as a privilege as a duty—not because they want it so much, but because we need them sorely. I long to have them allowed to have their voices heard in favor of those things that are just, true, pure, lovely and of good report, in this great fight that is going on between light and darkness."

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Correspondence.

Mrs. Hattie Peacock, Gardiner, Me., writes: A subscriber asked some time ago for new games, or ways to amuse the children evenings and on rainy days. I thought of how contented and happy Ruth is and had an idea that I could give some points on amusing children, but when I stopped to think what pleases Ruth, I was puzzled, because we never have to amuse her, as she has been taught to notice the little things and to enjoy them. This is better, I think, than to be always showing them something or keeping their minds full all the time. We let Ruth alone and she forms ideas of her own, which please her and keep her busy far better than anything we could do. Simple things are most suitable for children. Ruth gets up in the morning as soon as she awakes and "stretches." She thinks "stretching" makes her grow taller and I think it strengthens her muscles. On pleasant days she goes out doors as soon as she is dressed, and plays until she is hungry. We know nothing about "regular meals" here. We eat when nature tells us to. Sometimes she will go without breakfast until two o'clock, only drinking perhaps half a pint of milk. Her amusements now are picking flowers, making dandelion chains, whistles and curls, driving chickens out of my flower gardens, talking to the birds and God (I told her He likes to have children talk to Him), feeding chickens, and when she gets tired she sits in the hammock, or on the piazza and sings. She watches for her father. He comes home for the day at about two o'clock, and she rides up over the hill with him and then my care of her is nearly finished, for she spends the rest of the day with him. He enjoys her company, and sometimes I hear them talking and I think one of my neighbors has come to see me, for when I only hear her voice I think it is not Ruth. She does not talk at random, like most four-year-olds. She thinks and talks sensibly. Yet she has the ways of a baby. She is, in mind, a child of six, while at heart she is as much of a baby as she ever was. Ruth has a hoe, rake and shovel to work with her father, and with her broom, dust pan and brush she helps me. People usually think it too much bother to have children "under foot," but if they can't be "bothered" then they had best put them in a reform or industrial school where people are hired to bother with them. I am not trying to "hit" anyone with that remark; it is only one of my ideas. One of my friends won't let her little girl "help" now, but when the child grows up she will make a remark something like this: "Well, I should think if you see that done every day, 365 days in the year, that you know how to do it." I know three women who make that remark quite often, and when the children were younger they wouldn't let them help; it would be a bother. Take a child to see a picture and she will tell you of a number of minor parts of the picture you have not noticed, but without which the picture would be incomplete. Just so is it about house work; when small a child will notice the little things which she would overlook if she began to learn when half grown. Ruth "digs" the corners out now and is careful about the little things, and when we come to think, we see that it is the little things, whether in work or in life, which make up the one grand whole. Both my husband and I "lay by" work to do on rainy days and Ruth helps us both, and in the evening she sets the table (her table) and her father eats his supper with her. We have added a dog to the family and she amuses Ruth, besides being company for her. Ruth plays with her dolls on rainy days and then there are the most wonderful things in a trunk which she may look through only on rainy days, or when I clean house. There are some old letters, a few beads and buttons, her baby clothes and small boxes, bright pieces of cloth, cards and odd things which one would want to keep yet not care much about. Such a box or trunk is a veritable wonder box to children, because they find something new each time they put their hands out for more. We have had only a very few short showers for six weeks, and everything is drying up; fruit on the trees is turning yellow and dropping off, and vegetation is drying up and dying. We have no evenings. My husband is a R. F. D. carrier, and we have a small farm, two acres with the house and 17 acres three miles out in the country. We work all the time and yet do not wear ourselves out; we just take life happily, being thankful for the work that is ours to do and for the strength to do it, while we enjoy life as I believe it was meant for us to do. People who visit us seem to enjoy themselves and we never have to ask anyone, who has been here once, a second time; they are willing to accept the first invitation. We never entertain anyone or make excuses; when people come here this is their home also, and they are left to live as we do while they are here. Will some of the subscribers, who live near mills the owners of which sell remnants of silk, silk gingham, muslins, etc., write to me and I may be able to help others sometime? These remnants are from 11 inches to one and four-fifths yards long, and make pretty waists and dresses for children, and are very cheap and economical. One who lives partly in the country could make money selling them, as one can cover the pieced places with tucks, or put inserting between. One could make shirt waists to sell; that is what I want them for.

[More of us would like the address of such mills.—ED.]

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Youth's Parliament.

S. N. Eversole, Jr., Ross, N. Dak., writes: Dear Mrs. Melville: I am living on the Dakota prairie, and like it real well. I have two pets; one is a little mule that I can ride or drive. I have a small saddle and spurs. The other is a goat. I have a small goat cart and red harness. I drive him. His name is "Billy." The mule's name is "Jinnie." Now, boys and girls, come over and we will have a drive. I am eleven years old. I will answer Elizabeth Jameson's question. St. John 11:35. "Jesus wept."

[Here is a question with which they used to puzzle the Editor when she was a small girl: "Who was the father of Zebedee's children?"—ED.]

Ollia E. Ator, Lipan, Texas, writes: Dear Mrs. Melville: Why is it that the Parliamenters do not write more? We who live so far away in the South would be glad to hear from the Northern boys and girls of their different occupations, amusements and various other things. It is raining here today, and is very cool for this season. But the old mocking bird does not seem to care for either cold or rain, but gets in the highest tree that she can find and sings from morning until night. Our peaches, plums and apples are now ripe and everybody is busy with their work in field, garden, orchard and house. Schools have all closed until September. I am a great lover of flowers and have some very beautiful ones now. My petunias and phlox are blooming profusely, and some of the hollyhocks are still in bloom. I am also fond of reading, and am now reading and studying the "Science of Life," a book which I think all should read. Now some of you Northern boys and girls write. I have a cousin who would like to correspond with some of the Northern young people between the ages of twenty and thirty. Her address is Hattie Ator, Lipan, Texas. My age is eighteen..

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Facts About Bacteria. — Bacteria are jelly-like cells, of microscopical size, and of various shapes and species, which produce disease. These cells vary in size from one-fiftieth of an inch to as small as one-twenty-five-thousandth of an inch. Bacteria belong to the vegetable kingdom, and multiply with great rapidity; the method being by dividing into two equal parts. This division is said to sometimes occur as often as every hour. It is only lack of sustenance that prevents their assuming enormous proportions. These bacteria exist in almost everything; in the air, in the water, in the earth, in our food, on the surface of our bodies, in the cavities thereof—in fact almost everywhere. Perhaps there is no way, or place, that these bacteria may do more constant and daily harm to health than upon the surface of the human body. The bacteria thrive best, and multiply faster, in dirt, and heat and moisture. Almost twenty per cent. of the total excretion of the body is through the skin. The skin itself is constantly renewed from underneath, and the epidermis, or outer skin, is constantly being cast off. These two facts, together with the inevitable external accumulation, supply a fertile field for the bacteria, while the heat and moisture are furnished by the body itself. Unless the skin is persistently and constantly cleansed, all kinds of troublous diseases result. This cleansing is largely mechanical. Rubbing, with water, produces much of the needed elimination. The use of soap makes the cleansing more easy and more effective; because soap is a solvent, and loosens the accumulations on the skin so that they may be more thoroughly removed. Medication, in soap, is of small value, because the progress of the excreta is outward, the work of the soap is only to remove the debris, and it is difficult to impregnate a stream from mouth to source. The remedy, therefore, for such of human ills as come from the surface of the body, is soap and water, applied with considerable energetic rubbing. For the purpose of thoroughly removing the obstructions and accumulations from the surface of the skin, a pure soap should be employed, because such soap is an easy and perfect solvent to dirt. It has been found also that the purer the soap the stronger its antiseptic properties. By antiseptic properties, we mean its power to destroy bacteria. With good public sanitation and careful personal cleanliness, the chances for bacterial disease getting a hold upon the individual is materially lessened, and serious epidemics made impossible.

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Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 586, Aug. 22.—*What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in September?*

Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 581,—Is it Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in One?

S. W. Burlingame, Sharon, O.—If this topic means to mow it two years in succession for hay it will not pay—if one is looking to the adding of more nitrogen with the clover. Here in Southeastern Ohio the clover winter-kills badly during the winter following the removal of the first hay crop. This is its second winter and it will freeze out much worse than the first winter. It will freeze out badly the first winter if it has been tramped with stock during fall and early winter. This is one of the reasons why clover freezes out and it does not pay us to lose a hay crop for the little pasture one would get the fall before. But it will freeze out the second winter here badly if not pastured, and as a natural consequence has passed the prime meridian of its existence as a soil improver and should be turned under for some spring crop while there is the greatest amount of nitrogen in the land, resultant from the clover's faculty for storing this element in its roots. A large hay crop can be gotten this second year if timothy has been sown, which will take the place of the dead clover and feed on the carcass of the old clover plants, but the taking off of this big crop of timothy does not add to the fertility of the land it grew on. Of course, some may argue that the manure from this crop can be put back and thus feed the land after having got the feed value out of it, but if all of the manure is saved and gotten back it will only be worth about three-fourths as much for manure as before it was fed. The stock will take the other fourth for their growth and nourishment. Looking to the improvement of the land by clover growing it will be best to plow it down the second year when its maximum growth has been reached, or rather passed, just as it is best to gather a crop of apples just as soon as the fruit has matured. It is the apples one is after in the one instance and the nitrogen in the other.

H. C. Boone, Wolf Creek, Ky.—I expect Mr. Terry would say only one; but we all are not able to farm just as Mr. Terry does. A man owning a small farm in a good state of cultivation, can possibly make more money by following the short rotation of clover, or the one year system. But for general farming, where land is needing clover the two year plan should have preference. In these later days even the best farmers miss a "catch" now and then. Eight and ten dollars per bushel for clover seed, with a small fertilizer bill attached, means something. Then hold on to your clover sod. Make fat calves, fat pigs and good mutton the first year and the same the second, then turn the old sod with its accumulation of plant food and see the corn or wheat grow. This is renovating the land and your pocket-book without so much outlay of muscle. If land is improved by a second crop of cow peas, why not with the second crop of clover? I hardly think that if one year in clover gives us an increase of ten or twenty bushels per acre that two years will give us forty, but certainly there will be a greater amount of vegetable matter and the elements necessary for crops by the use of a "double dose." So don't be hasty in upsetting your clover sod unless it is quite patchy with weeds.

John D. Smith, Mackinaw, Ill.—On the prairie soil of Central Illinois clover does not last over two years, as it winter-kills, but on clay or gravel lands it may last longer. I know that the longer it remains on the land the more it improves the soil. Some years ago we broke up a clover sod four years old, from which we raised immense crops of corn for three years in succession. I claim that clover is one of the best, if not the very best, restorers of the soil, and believe that if run-down farms could be well set in clover and pastured with stock, that it would improve the soil faster and better, and cost many times less than using commercial fertilizers. It pays well to grow clover, especially on heavy land.

E. G. Richmond, Angola, Ind.—After several trials in letting clover stand for mowing the second year I think that I shall never do so again. In this section clover that goes through the second winter is about done for and will hardly make half a crop, as it winter-kills, and the ground is left bare or covered with weeds. When cut one year and some left on the ground it supplies nitrogen enough for a big corn crop the following year.

Albert Murphy, Gordonsville, Va.—I spent a little over half a century on a farm in the Middle West, where I raised clover for hay, pasture, seed and the improvement of the land. I once thought it best to let it stand two years, thinking it would be better for the land and getting two years hay from one seeding. I have since learned that it is really a biennial and lives over the third year by reason of the mowing not allowing it to exhaust itself in seeding. While it may make a good crop a second year, the chances are against it as the weeds are taking the place of the declining clover, and instead of adding to, are taking from the store of plant food the clover has made. The longer clover remains on the land the more danger there is from clover sickness. If we can more frequently fill the soil with fully developed roots the better for the land, the grade of hay and the success of the plant on the farm. Therefore I would grow clover in a three year rotation with small grain and cultivated crops.

John P. Smith, Logansport, Ind.—As with us clover is cut for hay and then again for the seed, we think that it will do the land more good to let it stand the second year until in bloom, and then plow it down for wheat. Follow the wheat with corn and then wheat again with clover, making four crops with two breakings.

Irvin G. Miles, Berwindale, Pa.—I believe it best to let clover run two seasons if you get a good catch, but we cannot leave ours that long, as it disappears the second winter even in new land. Last year we had a fine crop of clover, and now we have not a bit, and this on new clearing, too. Therefore it is best to plow down after the first year and put in potatoes, then to wheat and seed again.

M. L. Jordan, Woodford, Ohio.—I think that clover will improve the land more in one year than in two, for I will then have put into the soil a lot of plant food that would be taken out the second year, and it will not put back enough the second year to pay for both. I think the best way is to let it stand one year and plow under for oats, and then to wheat in the fall and back to clover. [Where would your corn come in? Ed.] The second year there are more weeds, as more or less of the clover dies out and the hay is inferior. I think it best to run clover one year and seed more frequently.

SUMMARY.

Mr. Smith, of Illinois, thinks that land will improve faster by letting the clover remain and pasturing it than by using commercial fertilizers. If it is pastured by young stock which are making their bony frame, the pasturing will rapidly exhaust the phosphates in the soil, and the clover returns none of this. It is well to remember that clover, while it does fix nitrogen in the soil, is one of the greediest consumers of the mineral matters, and the young animals which are making bones, take a great deal of phosphoric acid from the soil, which can only be gotten back by putting it there in manure or fertilizers. The depending on commercial fertilizers merely to make sale crops is bad policy, but they can be made immensely useful in the improvement of the soil if judiciously used in the development of the crop that feeds the land and stock at same time, the clover or other legumes. As Mr. Richmond says, the great difficulty in the Central West is the fact that the weakened clover fails to survive the second winter, and weeds and grass, that take up what nitrogen the clover has left, come in. Of course where timothy is sown with the clover the crop has to remain over a second winter in order to get a fair crop of timothy. But where the clover is grown for the main purpose of improving the soil it is not always well to sow timothy with it, and on most upland farms it would be better to confine the timothy to the low moist lands that suit it better than the hills, and to run a short rotation on the uplands. In the Piedmont and mountain country of the South where clover is a success, it is far more permanent than in the North, and often remains for several years in perfection, while in the cotton country it is apt to die out the first season in the hot sun. Mr. Murphy could better afford to let it stand over a second winter in the Virginia Piedmont than in the Central West. But even there he finds it an advantage not to do so. One great reason for the growing of clover is to add humus to the soil, and it must be evident to anyone that where a sod is buried every three years there is more rapid increase in the humus accumulation than if the growth is removed from the land two years in succession, and crops of seed taken, which exhaust largely what the clover has fixed in the soil. Mr. Smith, of Indiana, prefers to let the clover remain until in bloom the second summer and then to plow it down for wheat. On heavy clay soil in the North this may not do any damage by souring, as it certainly would in the South. But, while the long summer fallow will make a good crop of wheat, it will inevitably be at the expense of the future productiveness of the land, through the more complete oxidation of the humus and the release of plant food taken up by the wheat. A cultivated crop like corn or potatoes makes the best summer fallow for wheat, when we take the future of the soil into consideration. Mr. Jordan is right, if the seed crop is taken the first summer, for that is an exhaustive process. It may be necessary or profitable to cut the second growth of clover, but for the future of the land it is best to let it remain on the land to be plowed under with all the farm manure for the corn crop the next spring. But someone must grow the seed, and if the sod is well covered with manure during the winter it may be done with profit. For the best results with the land we are fully convinced that a short rotation of three or at most four years is best.

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The Gem Hay Baler. — For thirty-six years the Geo. Ertel Co., of Quincy, Ill., have been manufacturing baling presses, incubators, etc. They gave much time and thought to the production of a baling press that would be the most durable of anything of the kind for the purpose. The result of this careful study and numerous experiments was the placing upon the market of "The Gem" baler. This baler, it is claimed, has no equal in simplicity, compactness and ease of operation; it fulfills every requirement; is correct in principle and exact in operation. If you contemplate buying a baling press you should by all means investigate the merits and points of superiority of "The Gem." To help you in this investigation you should send to the manufacturers for a very valuable and interesting book, illustrated and full of information for farmers and all who are interested in the hay baling question. This book goes thoroughly into details, and by means of illustrations shows the advantages "The Gem" baler has over other makes. It will be mailed free if you mention the P. F.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. To buy a farm in Virginia. Well watered, some fruit, no hills. Write description, location and price. Address, J. S. PHILLIPS, Lancaster, Ohio.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Fine Pedigreed Scotch Collie pups and yearling Collies to exchange for S. C. B. Leghorn chickens or other products. Also Pekin ducks for exchange. CHAS. BENNETT, Goodman, Va.

For Sale. 165 acres, fair improvements, about 80 acres bottom; will grow alfalfa. A fine stock farm and the biggest bargain in the county at $25 per acre. Write for full description. E. E. SEYMOUR, Sturgeon, Mo.

Farm For Sale. 114 acres, in Queen Anne Co., Md. 7 room house; 8 out buildings; 3 stores; school and church in sight. Grows wheat, corn, clover and all kinds of small fruit. 18 acres wood; near three railroads. Price, $4,000, easy terms. Write to owner, JAS. MACDONALD, Ridgely, Caroline Co., Md.

Virginia Peninsula. Rare opportunity to procure profitable home. 240 acres in heart of trucking district. Oyster shore, gunning, fishing entire year. Salt meadows where cattle graze the whole year. 75 or 80 acres grow all vegetables and grains profitably. Land level, no obstructions; drains nicely. Thickly settled locality, improving in every particular fast. Seldom a farm offered here for sale. A good farmer could have made price of farm this year on round potatoes alone. W. G. S., Birds Nest, Va.

SILOS SAVE the entire crop in the best feeding form. Ours are all round. No corners nor angles to admit air and mould and rot the silage. We make them of Cypress, White Pine and White Hemlock. Four styles and 200 sizes. Fit every requirement. Nothing so good, nothing so cheap. We make all kinds of machinery for filling Silos. Catalog free. Harder Manufacturing Co., Cobleskill, N. Y.

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SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

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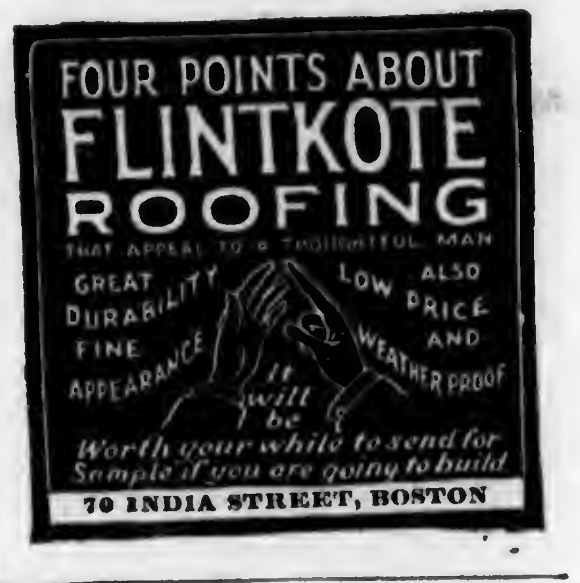

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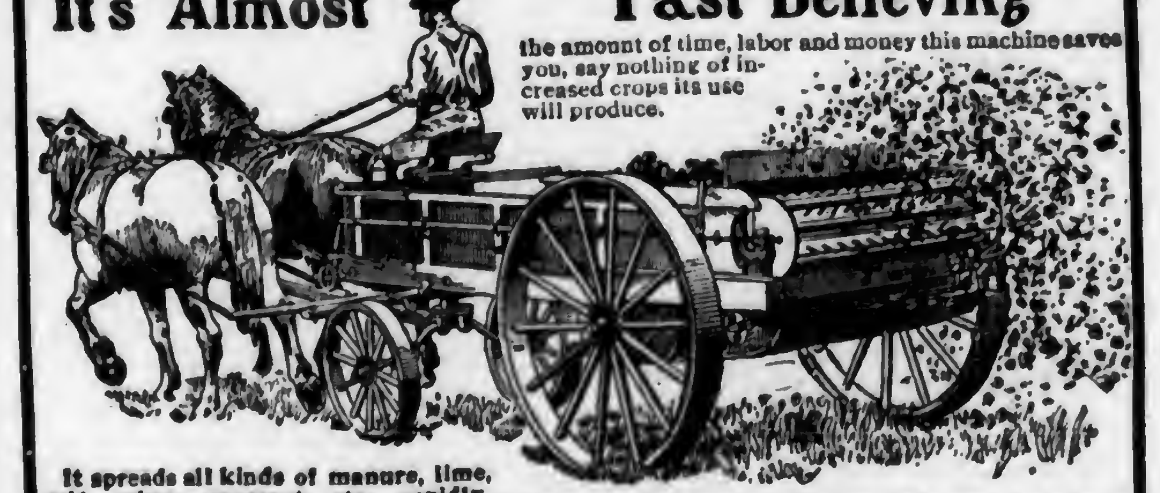
It's Almost Past Believing the amount of time, labor and money this machine saves you, say nothing of increased crops its use will produce.



It spreads all kinds of manure, lime, salt, ashes, compost, etc., rapidly, evenly and better than it can possibly be done by hand. It makes no difference how hard, lumpy, caked, coarse, strawy or stalky the manure is.

The Improved Kemp Manure Spreader will tear it apart, make it fine and spread it just where you want it and in any desired quantity per acre. Greatly improved for 1903. Send for our new illustrated catalogue, which describes improvements in detail, and tells about "How to Grow Big Crops." Catalogue mailed free. Remember that the only original and genuine Kemp Manure Spreader is the one made by ourselves and the patents thereon have been fully sustained by a recent decision of the United States Circuit Court. KEMP & BURPEE MANUFACTURING CO., BOX 33, SYRACUSE, N. Y.

Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 33, Oneida, Kan.

A Farm Work Shop.—Much has been written on labor saving tools for the farm, all of which has been read with great interest by myself and others. I will now describe my work shop, which I find is a great convenience on the farm, also a great saver of money that one would have to lay out for repair work, besides the time that one would spend going and coming. Size of building is 20x22, story and a half with basement, also a wing 12x14. In one corner of wing stands an 8 horse power gasoline engine. The rest of this room is given to my wife for a laundry room. Here is placed a power washing machine, from which a faucet drains the water through a pipe which carries it out of doors. By the use of a small cord and pulleys the end of a shaft is drawn into a loose belt which in turn runs a pump on an 80-barrel cistern outside. This brings the water to the cooling tank for the engine, which holds 8 barrels. Through the circulation of the water around the engine, that on top of the tank is kept nearly at the boiling point when the engine is running, and being clean water it is used by my wife for washing, being drawn from the tank into the tubs through a siphon. The desired temperature can be obtained by raising or lowering the siphon in the tank. There is no lifting of water in or out. So much for helping my wife, who, with me, has helped to make all the comforts of our home. In the next room stands a saw table where all cutting and ripping of lumber is done for all work that may be required for work on farm or buildings. In one corner is a turning lathe for wood, while on the opposite side there stands a power corn sheller and small feed mill. Here all grain is ground to be fed to stock. Also, my book shows that last year my neighbors brought their grain to be ground to the amount of $169; this was done evenings and rainy days, and in cold, stormy weather, so that no time was taken from farm work. I should say that one side of my shop is occupied with my work bench with vise and a set of carpenter tools, also a shoe and harness repair outfit, so that everything is kept repaired and ready for use when needed. A husker was added to my farm tools last fall and my engine furnished power to husk 45 bushels per hour at an expense of 10 cents per hour while running, I drawing all the corn with one team and starting and stopping the engine as desired. An emery stand grinds my plow points, while a buzz-saw cuts my wood. One more word to farmers: Don't buy a gasoline engine too small. My first purchase was a 3½ horse power and was soon overloaded with work and was replaced by an 8 horse power.

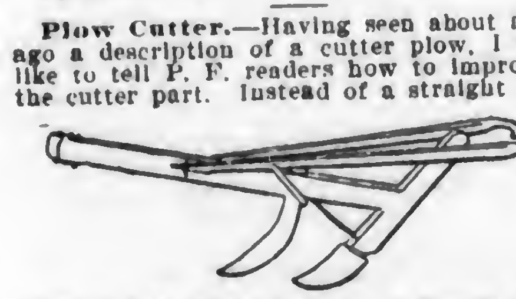
Hudson, Mich. I. H. AMES.

[A very complete farm shop, surely. And the story is well told. Let us hear from others.—ED.]

Keeping the Guards Tight. — When mowing this season I had great trouble with the guards coming loose. The burrs being on the under side of the cutter-bar, some of the guards would come off frequently. I tried raising the steel back of the corners of the burrs by using a chisel and hammer. They stayed longer after I did that, but I have now hit upon a plan that will do. Have a steel bar so shaped that it will fit over the burrs and prevent them from turning. Have it fastened onto the cutter-bar at one end with a hinge, and at the other end with a bolt and burr that is held firm by a spring.

Sykesville, Pa. ORRIN D. COUCH.

Plow Cutter.—Having seen about a year ago a description of a cutter plow, I would like to tell P. F. readers how to improve on the cutter part. Instead of a straight cutter make one as shown in cut. It should be bent forward at the point to an angle of about 45 degrees. This cutter will cut more roots than a straight one and all a team of horses are able to pull.



Fodder Cutter.—One of the best investments we ever made was when we bought a fodder cutting machine. It paid for itself the first season we used it. Ours has two fly wheels with handles fitted on them for two men to turn. One of the wheels may be taken off and a pulley put in its place so as to run the machine with power. It can be fitted either as a shredder or a cutter.

Campbellsville, Ky. JOHN A. KUNTZ.

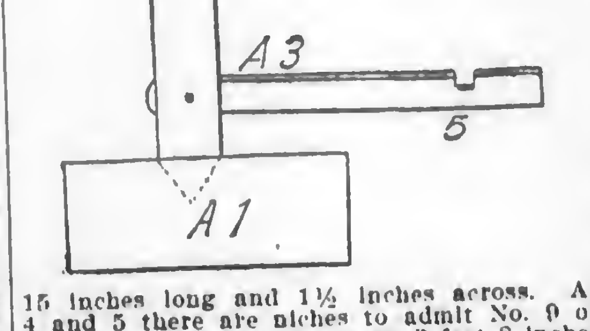
The Disk Plow.—Not long since I had an opportunity to see the disk plow in operation and for the benefit of P. F. readers will say that to my mind it was simply perfect. The land was free from stone, etc., but was covered with a heavy growth of ragweed. Every furrow was turned perfectly and hardly a weed left above the surface. The land was plowed deeper than could possibly have been done with any other plow that I ever saw. Any farmer whose soil is reasonably free from stones, stumps, etc., should certainly have one of these plows.

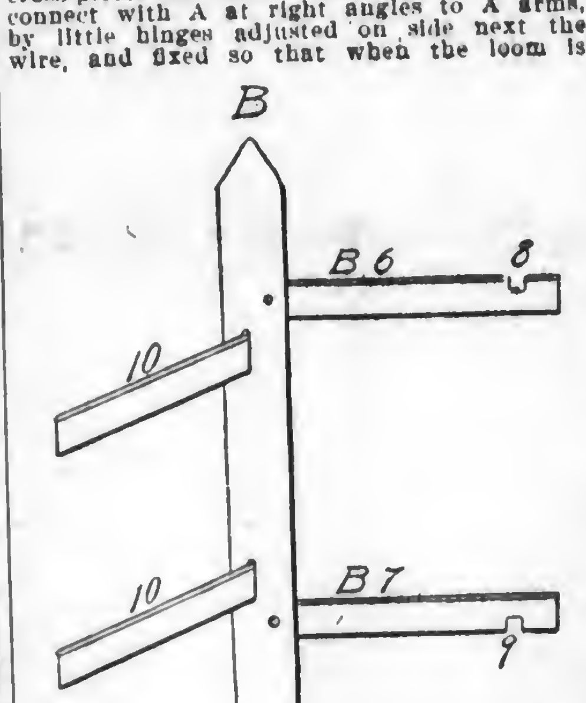
Cynthiana, Ky. ED. WEBSTER.

Roller and Pulverizer.—A cheap roller and pulverizer may be made by taking two cylinders from worn-out threshing machines, leaving the spikes in. Get a blacksmith to put bars of iron between the bars that hold the spikes. Now make, or have made, a wooden frame for the roller, same as frame for common roller. Brace frame well with iron braces, provide metal boxes for the axle to run in and a seat will complete your roller. It will do better work than a more expensive one and need not cost more than $6 or $7. J. P. DIEHL.

R 1, Harrisonburg, Va.

Fence Loom.—While it is best to use the patent loom in building the picket and wire fence so common in the South, there are times when it is not possible to procure one. At such a time a loom made after the following design will prove an effective substitute. A is a standard of hard-wood 4 feet high, set in a block. A 2 and A 3 are arms, each 15 inches long and 1½ inches across. At 4 and 5 there are niches to admit No. 9 or 10 wire, and the arms are set 2 feet 8 inches to 3 feet apart. B is a shorter standard 3 feet 6 inches high, with arms 12 inches from standard. At right angles to arms are cross-pieces 18 inches long. These pieces connect with A at right angles to A arms, by little hinges adjusted on side next the wire, and fixed so that when the loom is ready there should be an inch of space between heights of arms at A 2 and B 6, and the same at A 3 and B 7. In order to work the loom, hold A with one hand and B with the other. Pull B back until cross-pieces are at right angles with A arms. Insert picket; throw B forward until space intervenes between wires; insert a picket and so on, working B backwards and forwards.





Maryville, Tenn. ROBERT STANSFIELD.

A Repair Shop. — Farm implements should be kept in good repair and for this purpose a shop with a few necessary tools is a great help. A forge for heating, welding and tempering will save valuable time and many dollars in the course of a few years, besides the satisfaction of having your work done to suit you and at the proper time. The best farmer is not a jack of all trades, but there is generally someone on the place who is handy with tools, if not an expert, and much time can be put to good account in winter and on rainy days, repairing implements. An expensive outfit at the start is neither necessary nor advised. Different tools can be added as you need them and their cost will scarcely be felt. Then some tools can be made at odd times that will be very satisfactory. Useful things can be made of old horse shoes, as farm gate hinges, fastenings, etc. Do not make the mistake of putting in a small, portable forge, but put in a medium sized bellows which will give you a blast for any sized work and is more economical. WM. C. AIKEN.

Angwin, Cal.

Arrangement of a Chute. — My cow barn has a hay and straw mow above the stalls and feeding alleys 21 feet deep. Hay and straw chutes run perpendicular from alley through comb of barn, ending in cupola with windows opening on the roof. Two sides of chutes are boarded solid, while the other two sides have alternate openings every 2 feet so hay and straw can always be forked from top of pile into chutes. A permanent ladder is made on one solid side of the chutes from floor to windows at roof. To reach this ladder a smaller and narrower ladder is used, being suspended by cords and weights just back of rounds of permanent ladder, and constructed so as to shove up within it just as a window sash, with weights balancing it anywhere. This gives quick access to roof in case of accident there; convenience in getting hay and straw; better ventilation in lower barn as well as a clear alley to feed in or drive through. E. W. BRAWLEY.

Mooresville, N. C.

Success with Oil Stove. — This spring we moved "out West," and as wood is very scarce and coal almost $8 per ton and some of it very poor at that price, we decided to buy an oil stove. So we ordered a three-burner B. & B. stove like the one advertised in the P. F. We have given it a thorough trial and find it satisfactory in every way. It throws out very little heat, yet cooks rapidly and bakes well. For a family of average size it will require from two to three gallons of oil per week. But with a steam cooker one would use much less, as a meal could be cooked over one burner.

Riverton, Neb. MRS. J. M. LANCASTER.

AT HALF MAST.

Sometimes we are greeted in the morning by flags at half-mast for some prominent official who yesterday was apparently in perfect health. When we inquire the ailment by which he was stricken it is not uncommon to be told "acute indigestion" or "stomach trouble."

It is time people learned that indigestion or any form of "stomach trouble" is not a thing to trifle with. The result may not be fatal, but there can be no condition of diseased stomach which does not carry with it physical loss and weakness.

Dr. Pierce's Golden Medical Discovery cures indigestion and other forms of disease affecting the stomach and its allied organs of digestion and nutrition. It enables the perfect digestion and assimilation of food.

"Thanks to Dr. Pierce's Golden Medical Discovery," writes Mr. Charles H. German, of Lehighton, Pa. "It is the only medicine that has done me any good. I tried everything I could think of to cure indigestion, and found I was only throwing away money. Then I heard of Doctor Pierce's Golden Medical Discovery and tried a bottle of it, and to my joy found it was doing me good. I used six bottles of it, and am now cured. It is the *best medicine on earth.*"

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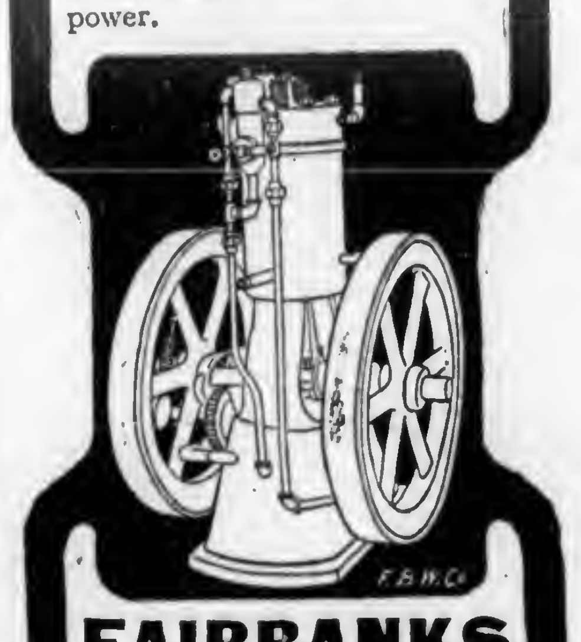

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The 1903 "Ohio" Blower Elevators solve the blower problem. The best in the past, they are still further improved, and will unquestionably cut and elevate the most feed or ensilage for the power required. "Ohio" machines work, and our absolute guarantee goes with every machine. New Patent Applied For Interchangeable Shredder Blade for all sizes. Everything complete in one machine.

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THE ARMOUR FERTILIZER WORKS, Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Swinging Hen Roost.—Take four ⅜-inch rods and have the blacksmith make an eye in both ends of each rod, then make four hooks with a nut on one end; put the hooks through the hen roost and tighten up the nuts; take four spikes and nail up in the rafters of the hen house and hang the eye rods on the spikes, then hook on the hen roost. Handy for taking down and cleaning. Keep the rods greased with a little old grease and then the lice cannot crawl up on them to the hen house.
Windsor, Cal. GEO. H. CHADD.

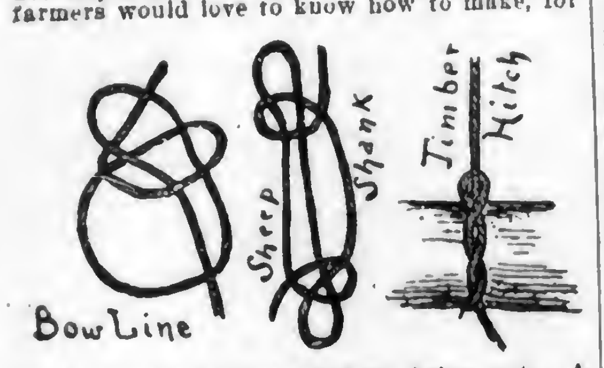
Leaking Vessels. — Does your horse trough, wooden tank, rain barrel, wooden buckets or any wooden receptacle for water leak? If so a little corn meal placed in the opening will close it. J. S. ANDERSON.
R 1, Oneida, Kan.

A Handy Ladder. — Take a pole any length you wish your ladder. Split the pole about two feet from the bottom, put in a wedge to spread the legs, put on a ring, bore a ¾-inch hole and put in hickory pins and the ladder is complete. This ladder will especially be found convenient for picking fruit and it will answer where any other kind of ladder will fill the bill.

Keep the Birds Out of your fruit trees when fruit is ripe, by tying a newspaper by the corner on the outer branch of the tree. Three or four papers tied over a tree will help wonderfully. MRS. GEO. W. DUGGER.
Hettick, Ill.

Saving Seed Corn.—We always pick up the good ears when husking, and put in the granary loft. Then when planting time comes, sort it over again before shelling to plant. Do not let mice have the range of the corn pile. Get a tin bucket and fill half full of water; sprinkle brown middlings over the top of water. A mouse cannot get out after it has sampled the middlings in the bucket. By following this plan quite a number may be caught at once. KELLY GEARHART.
Templeton, Pa.

Various Knotty Problems.—The bowline is a loop knot that if properly made will not slip. The sheep shank is a knot many farmers would love to know how to make, for



it shortens any line without being cut. A line with a timber hitch may be used in logging instead of a chain. The illustrations explain the way to make these knots.
Samia, Ont. DAVID CLARKE.

Fertilizer Sacks.—To keep them from getting rotten when full of fertilizer, pile them in as small a space as possible and cover with old sacks or anything to keep the air from them.

Oil Can Holder.—Cut an old tin tomato can into halves and nail the bottom half on any farm implement or machine which needs oil. Set the oil can in it and it will be very handy. ELLSWORTH H. MISH.
Inwood, W. Va.

How to Stretch Barb Wire.—The following is our way for stretching barb wire. I think it is a short cut to any wire stretcher that I know of. We take our farm wagon, drive it to the wire and then fasten wire to a spoke in hind wheel; then set a prop under axle to hold wheel off of the ground and wind around hub. Wire can be stretched a quarter string at a time. One man can do it.
Hunt, Ark. A. D. PRICE.

To Lead a Hog.—Take a leather horse halter and put on it, putting the front legs one on each side of throat piece and buckle up tight over hog's back or shoulders, and he can't get away from you, neither forwards nor backwards, and there is no danger of hurting hog. I have tried it.
LaBette, Kan. E. L. CHRISTY.

Controlling Grasshoppers. — Prof. C. G. Gillette, of the Colorado Experiment Station, suggests that the best of all artificial methods is plowing deeply late in fall or early in spring. When grasshoppers are quite small and travel slowly, they may be killed along ditch banks and other places by covering the ground with straw and burning it. They may also be poisoned in large numbers by thoroughly spraying the young weeds and other vegetation on the waste land, where they are hatching in large numbers, using Paris green, arsenite of lime and arsenate of lead. The poisons used should be rather strong. Later when the hoppers get into the crops they may be poisoned quite successfully by the use of arsenic bran mash. Mix a pound of Paris green or white arsenic with about 20 pounds of bran. Mix with sufficient water so that the particles will adhere in a crumbly mass, then sow broadcast where the hoppers are most abundant. For open fields the hopper dozer or catcher is probably the best remedy after the grasshoppers have hatched. The hopper dozer consists simply of a pan of sheet iron. The back is extended by means of upright stakes and a strip of muslin. In the pan is placed a quantity of kerosene or crude petroleum, or a small amount of water with this oil upon the surface. The dozer is then drawn over the field by means of a couple of horses kept well apart. The hoppers will jump toward the dozer in order to escape. Great numbers of them will fall into the oil and be destroyed. Every grasshopper that is touched with the kerosene dies. Attempts have been made to introduce fungous diseases, but with very little success. A. B. C.

Carrying Water Bottles. — Carrying water bottles in the hand, when driving or leading horses to fields at a distance, is often very inconvenient, and I think the following is a much better way. Take a pair of old boots, rivet a good, strong loop to each, in place of the old ones (which are generally rotten), run a small rope through each loop; make two loops in the rope to fit over the top of the hames, put a bottle in each boot and hang over the horse. One can carry bottles in this way without much danger of breaking them or spilling their contents, as they are always right side up.
Bozeman, Mont. JACOB M. KRUSE.

Various Domestic Hints. — In damp weather, when your feet need warming and you do not want a fire in the heater, take a hot cap from your cook stove, lay in a small box and carry to your sitting room, cover the cap with paper and set you feet on it. When baking cake take it from the stove, loosen around the side with a knife, set the pan on a wet cloth for a few minutes and it will turn out nice. If your cream is cool set the churn in warm water while churning instead of pouring hot water in the churn, and you will have no scalded butter. MRS. J. A. KIRKMAN.
Grand View, Tenn.

Increasing the Egg Yield. — During the summer, hens of large breeds often give a good deal of trouble by their persistence in following the maternal instinct. Many eggs are broken and spoiled by broody hens crowding into the nests with layers. The best way, of course, is to let the hens have at least a chance to hatch a brood of chicks, even if taken away from them when hatched. But the broody hens should be taken and kept off the nests intended for layers anyway. If broken in the very beginning of their sitting desire, they will soon go to laying again, thus adding again materially to the egg yield instead of diminishing it by breaking or helping to break eggs in the nests. Our way of handling broody hens is as follows: We have a small yard enclosed by a high poultry wire fence, with a pole for a perch across one corner. As soon as a broody hen is found on the nest at night she is taken off and taken to this yard. Should she be light on the wing, and manage to fly over the 8-foot fence, she is taken again as soon as found on the nest, and put back after one of her wings has been clipped just enough to prevent her from succeeding in her flight the second time. Here the broody biddies are kept well supplied with food and fresh water. Every third day the door is opened in the afternoon or evening, and the hens allowed to come out. Most of them will go to their regular roosts at night. Those that return to the nest to sit are again taken off and confined in the yard for another three-day period. This will usually cure them. We find this by far the easiest way to handle broody hens during the summer. It avoids bad temper, bad language, waste of time on the hens' part, and a material increase in the egg yield. EDMOND.

Lean Pastures, Lean Cattle.
Grasses need plenty of Potash. Top dress annually with a fertilizer containing 8%
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and note the rich pasture and fat cattle that result.
"Farmers' Guide," a book of ours, tells about Grass Growing and Cultivation. We mail it *free* to farmers.
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for your investment, but a greater profit than you can make on your money in any other legitimate business. We can't take space to explain in full here, but will send you our book, "The Great Fortunes Made from Gold Mining," and explain the plan in full, if you send us your name and address.
The Central Gold and Copper Co. owns four of the finest and richest properties in Gold Camp, New Mexico. A few thousand dollars more spent on the property will bring it to the producing and dividend paying stage and make the stock very valuable. We only propose to admit a few to the fabulous profits of this great enterprise, and we propose to
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Write to-day for the book and full particulars. Price of stock is low now but will advance rapidly.
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Every Farmer Should Own a Good Fanning Mill
There are two kinds: The first-class ones and the ones that are thrown together in a hap-hazard way to be sold at any old price that catalogue and mail-order houses can get for them. The **good** kind is the **CHATHAM MILL** which we manufacture and
SELL ON THREE YEARS' TIME
The mill has to be first-class in every respect or we would not be able to make this liberal offer, because if they were not first-class, they would not stand up the three years, and consequently we could not collect for them. We want you to know more about the
Chatham Fanning Mill
We want you to know how you **can** have one and just what it will save you during a year's time. We want you to know how to protect yourself from fouling your land by planting poor seed, seed mixed with wild onions, weeds, etc. Many a farmer has injured himself hundreds of dollars by planting unclean seeds allowing weeds to start that took years to eradicate.
One Chatham Mill buyer raised 80 bushels of oats to the acre from the same field that formerly yielded only 40 bushels.
One Iowa farmer graded 32,000 bushels of corn and sold it for seed, making the largest year's salary he ever made in his life.
Another got $1.50 per bushel more for his clover seed than others got with other mills.
We have a Book which tells all about the Chatham Fanning Mill
and tells all about just what you want to know in regard to cleaning seed for the market or cleaning it for seeding purposes. This book **is free** and we are glad to send it with our most liberal selling plan to any one who will drop us a postal.
The Editor of this publication knows that we are perfectly responsible and that you will get a fair and square deal if you do business with us, or he would not permit this advertisement to appear in his columns. Write at once for this free booklet and selling plan. Address
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OUR PREMIUM DEPARTMENT.

We have two excellent plans for our Summer Subscription Campaign. One is our clubs of four trial subscriptions to Jan. 1, 1904, for a dollar, with the choice of any one of the following four books to the club raiser:

Farm Helps
Short Cuts No. 1
Farm Experience No. 1
Farm Experience No. 2

We are looking for several thousand new names through these 4-name clubs during the remaining days of July.

The other plan is our World's Fair Contest. It is fully described on this page. Every new 6-months subscriber to the P. F. at 50 cents (the regular subscription price) is entitled to make one estimate of the attendance at the coming World's Fair at St. Louis, and may thus win the grand prize of $25,000 and the extra prize of $5,000. Every present subscriber who sends us one or more of these new 6-months subscriptions is entitled to one estimate for each such subscription sent. We are expecting an avalanche of new subscriptions to the P. F. from this contest, and we urge our friends to make up clubs in their respective neighborhoods at once. Make hay while the sun shines and before this proposition loses its novelty.

The Bread Mixer and Kneader is a handy thing for the good housewife. It saves her lots of time and work in bread making, and she can turn out a better loaf, too.

If you want a good wagon jack why not try the Standard, which we are selling. It only costs a dollar (purchaser paying freight), and it won't cost you a cent (except freight) if you send us a club of 6 yearly subscriptions to the P F. at 50 cents each.

Another good thing in the farm kitchen is the Elevating Towel Rack, described on this page. The illustration gives the hang of it. A dollar by itself (purchaser paying freight), a dollar and a quarter including a year's subscription to the P. F., or free for a club of 6 yearly subscriptions to the P. F. at 50 cents each.

We keep pegging away on our subscription campaign all summer. Our friends have nobly helped us in past years and we are looking for their aid during the present summer. We are making it profitable for them and interesting to those who are not now subscribers.

Look through this page every week and see if there is anything you want. Sewing machines, oil stove, books and other articles. You can buy them at a fair price, or you can get any of them free by raising a club for the P. F. The page is changed every time it is published, so that you will find something different on it each week. We aim to make it one of the most attractive pages of the P. F.

When you go to your postoffice—if you are not on a R. F. D. route—or any other place where you meet your brother farmers, don't forget to talk up the P. F. to them. You can easily raise a small club, and often a large one, by being prepared to always take advantage of every opportunity which presents itself. We know these are busy times on the farm, but lots of our friends are sending in clubs every day, and they point the way for our other friends to follow.

Mistakes and Failures

Gathered from the experiences of the farmer and his wife from Maine to California. Originally published in The Practical Farmer, Philadelphia.

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to warn the tiller from the rocks of failure. Applicable to every farmer in the United States and Canada. With full index.

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A complete Farmers' Institute covering every phase of farm work. Discussions on practical topics applicable to the detail work of the farm. Participated in by successful soil tillers in every section of the United States and Canada. With full index.

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The Practical Farmer Short Cuts No. 1.

For Busy Farmers, Their Wives and Families. Collated from the Columns of The Practical Farmer, of Phila., Pa.

A compilation of short cuts for saving labor and accomplishing results on the farm and in the home. Hints and help with special reference to the everyday needs of the farmers of the United States and Canada. 3166 labor saving short cuts, with 529 illustrations, with full index.

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The Standard Wagon Jack

An Indispensable Tool on Every Farm

Price, $1.00

Purchaser to pay freight.

Is worth $5 to every owner of a wagon. It is simple in construction; easily adjusted to any height; will last a lifetime if kept dry when not in use. Your farm tool collection is not complete without the "Standard."

We will send the P. F. one year and the Standard Wagon Jack for $1.25.

A Standard Wagon Jack free for club of 6 yearly subscriptions to the P. F. at 50c. each, club raiser paying freight.

Prescott's Elevating Towel Rack.

A Revolution in Wall Dryers.

Down within easy reach to put the towels on or off, (see dotted lines) then up it goes instantly, entirely out of the way.

Arms level at all times. It is usually put up over the sink or in the nursery, where the handle is convenient to pull it down when wanted.

A spring serving as a stop both ways.

Buy one and please your family as well as yourself, for you will not strike the arms with your head as formerly.

ONLY $1.00, purchaser paying freight. We will send The Practical Farmer for one year and one of these Towel Racks for only $1.25. Towel Rack free for a club of six yearly subscriptions to the P. F. at 50 cents each.

Bread Mixer and Kneader

This machine not only produces *better* bread, but saves *time* and *labor* to a greater extent than *any kitchen utensil used*; even the wringer not excepted.

It *thoroughly* cuts and beats up the dough, stretching and rolling it into that elastic condition necessary to produce light, fine-grained bread. This machine will save *half the time* and *more* than *half the labor*, and as the hands do not come in contact with it, clean bread is assured.

The machine is very simple and not liable to get out of order, with no more pieces to clean than the ordinary pan and spoon.

It is equally well adapted for mixing rye, graham, brown bread, fruit cake, etc.

All who have made bread by hand know what work is required. With this machine a boy or girl of ten or twelve years can mix and knead a batch of bread as easily as the strongest and most experienced woman in the old way.

STEEL RIMMED PAN INCLUDED. Price, $3.00, purchaser paying freight. Will send The Practical Farmer one year and a Mixer and Kneader for $3.25. A Mixer and Kneader free for a club of 12 yearly subscriptions to the P F. at 50 cents each.

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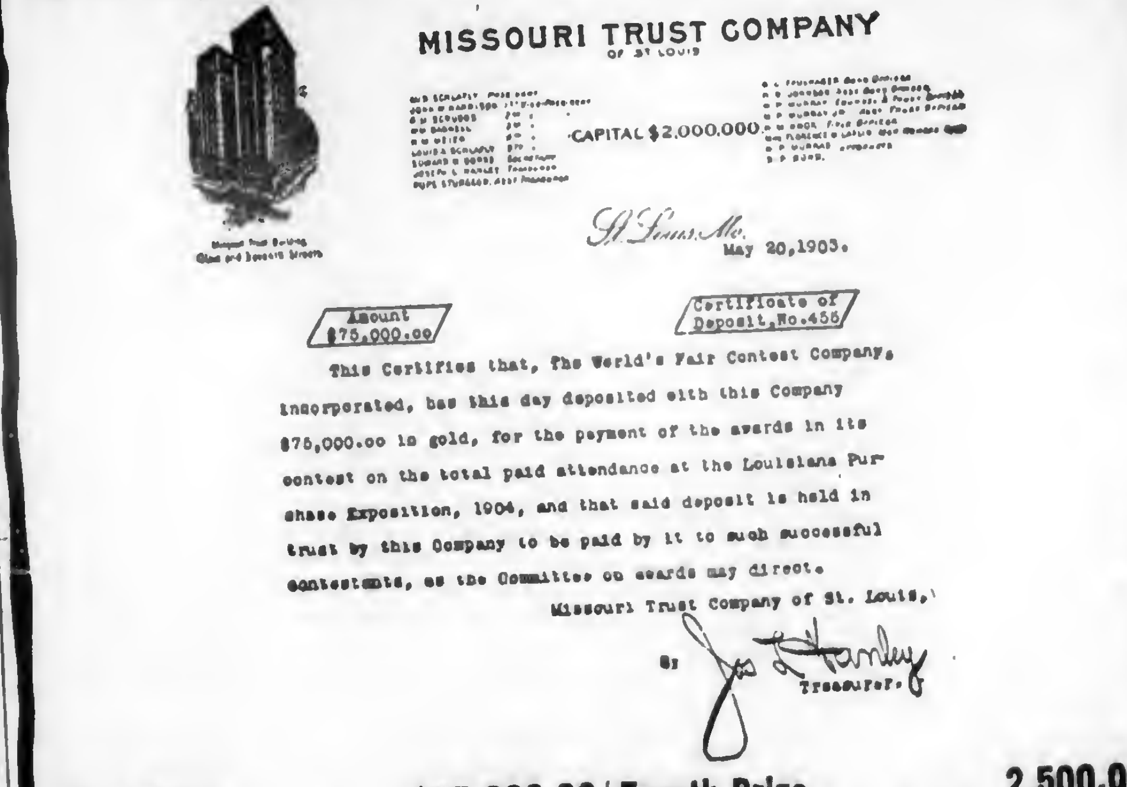
$75,000 IN CASH PRIZES



MISSOURI TRUST COMPANY
OF ST. LOUIS
CAPITAL $2,000,000

St. Louis, Mo. May 20, 1903.

Amount $75,000.00

Certificate of Deposit, No. 455

This Certifies that, The World's Fair Contest Company, incorporated, has this day deposited with this Company $75,000.00 in gold, for the payment of the awards in its contest on the total paid attendance at the Louisiana Purchase Exposition, 1904, and that said deposit is held in trust by this Company to be paid by it to such successful contestants, as the Committee on awards may direct.

Missouri Trust Company of St. Louis,
By Jos. L. Hanley
Treasurer.

First Prize, . . .	$25,000.00	Fourth Prize, . . .	2,500.00
Second Prize, . . .	10,000.00	Fifth Prize, . . .	1,500.00
Third Prize, . . .	5,000.00	Sixth Prize, . . .	1,000.00

AND $30,000 IN 1,883 SMALLER PRIZES.

Can you estimate how many people will attend the St. Louis World's Fair? The 1,889 people whose estimates are the closest will receive $75,000 in Gold.

Every one has an opportunity to share in the $75,000.00 to be paid to the successful contestants. This grand educational contest, undertaken in order to arouse interest in the greatest World's Fair the world has ever seen may bring you a fortune, and if you are careful in your estimates it is almost sure to bring you at least one of the prizes of $50.00 or $100.00, while you stand an equal opportunity to get the $30,000. Hundreds of people will be made richer by competing in this great contest. Why not you? Every American should do all he can to help spread interest in the World's Fair, and when he can do this with profit to himself the reason for it is double. You cannot afford to overlook this grand opportunity to gain a fortune for yourself.

HERE ARE THE PRIZES.

To the nearest correct estimate	$25,000.00
To the second nearest correct estimate	10,000.00
To the third nearest correct estimate	5,000.00
To the fourth nearest correct estimate	2,500.00
To the fifth nearest correct estimate	1,500.00
To the sixth nearest correct estimate	1,000.00
To the next 10 nearest correct estimates, $200 each	2,000.00
To the next 20 nearest correct estimates, $100 each	2,000.00
To the next 50 nearest correct estimates, $50 each	2,500.00
To the next 100 nearest correct estimates, $25 each	2,500.00
To the next 200 nearest correct estimates, $10 each	2,000.00
To the next 500 nearest correct estimates, $5 each	2,500.00
To the next 1,000 nearest correct estimates, $1 each	1,000.00
Total	$59,500.00

Supplementary Prizes for the Estimates sent in Earliest .... **$15,500.00.**

For nearest correct estimate sent in between February 1, and July 1, 1903	$5,000.00 extra
For nearest correct estimate sent in between July 1, 1903, and January 1, 1904	$5,000.00 extra
For nearest correct estimate sent in between January 1, 1904, and May 1, 1904	5,500.00 extra.

GRAND TOTAL OF CASH PRIZES...$75,000.00

INFORMATION THAT WILL HELP YOU ESTIMATE.

The total paid attendance at the Chicago World's Fair was	21,480,141
The total paid attendance at the Buffalo Pan-American Exposition was	5,306,859
The total paid attendance at the Omaha Exposition was	1,778,250

Without doubt the World's Fair at St. Louis will be the largest ever held in the world.

HOW YOU CAN WIN ONE OF THESE PRIZES.

We will send The Practical Farmer to a new name for 6 months for 50 cents and the new subscriber will be entitled to make one estimate in this Prize Contest. Each present subscriber of the P. F. who will send us one of these 6-months trial subscriptions will also be entitled to make one estimate. In other words, 50 cents will pay for The Practical Farmer for 6 months and 2 estimates in the contest, one for the new subscriber and one for the old subscriber who sends the subscription. A present subscriber to the P. F. can send as many of these 6-months trial subscriptions as he or she chooses, and will be entitled to one estimate for each subscription; **but these subscriptions must be new and not renewals.**

Write your estimate plainly and also your name and address.

For each estimate you send in, a separate engraved and coupon numbered Certificate, issued by The World's Fair Contest Co., St. Louis, Mo., will be sent you with your estimate shown thereon. These certificates to be retained by you until the close of the contest. YOU HOLD YOUR OWN CERTIFICATES. Get in your estimates early, as $15,500 extra is to be divided among the earliest estimates received.

HOW THE CONTEST WILL BE DECIDED.—The Official Record of the Secretary of the World's Fair showing the total paid attendance will determine who are entitled to the prizes, and the awards will be made by a committee of prominent Judges. Prizes will be paid in cash immediately after. If more than one estimate is correct, the prize will be equally divided.

MAKE UP CLUBS FOR THIS CONTEST.

We urge our friends to make up clubs in their respective neighborhoods in this contest. A club of 5 six-months subscriptions will entitle the club raiser to five estimates, besides the estimate to which each subscriber is entitled. A club of ten will give the club raiser 10 estimates and so on. You can subscribe for a friend who does not take the P. F. and have the paper sent to him and you have both estimates. Start in at once, so that your estimate will be in line for the $5,000 extra for the nearest correct estimate sent in between July 1, 1903, and Jan. 1, 1904. Your estimate may win both that prize and the $25,000 one. Address

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Furniture
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Guns and Sporting Goods
Harness and Saddlery
Hats and Caps
Hosiery
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Its profits are immense.

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All this is fully explained in a book which we want to send you free of all charges—on request.

The book gives the complete history and earning power of the mail order business. It gives statistics showing that the famous co-operative stores in England cleared over 40 per cent. on the investment last year.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Keeping Cows and Pigs and Buying Grain.

Geo. R. Kelly, Blackwater, Mo., writes that the P. F. has helped him "from the stump up," so he comes to it for further advice. He is on a farm of 70 acres. It is excellent grass land. Half is now in pasture and half in crops. Our friend tells of greatly overworking in the past and would like to have a little lighter work, and still do well, in the future. Here are the questions asked of us: "If I keep 10 cows, 10 sows, 20 ewes for early lambs, 50 colonies of bees and 100 hens, with one team for all work, can I not make more money, and have lighter work than I would have if I kept stock belonging to others on the pasture land and dragged after a plow, raising corn and wheat? How many cows would I need to keep to justify the owning of separator? Would it be best to sell cream at the creamery, or make butter to sell at 15 to 18 cents a pound, thus having the buttermilk for the pigs? Corn, wheat and shipstuff are usually low in price. Corn and wheat now, say 30 and 60 cents a bushel and shipstuff 70 cents per 100 pounds." My friend you are laying out a good deal of work for a man who wants to take life easier. I should certainly cut the list down some and will answer your first two questions with that object in view. If you keep ten cows get a separator. It will save a lot of work. Sell the cream at the creamery for any reasonable price. This will save more work, and under good management the creamery should easily pay you as much for the cream as you would get for the butter it made at home. You would hardly have the chances for making fine butter that they have at the creamery. Never mind the buttermilk, unless you can buy it cheaply. Now you have but to milk the cows, run the milk through the separator, sell the cream and feed the skimmed milk, sweet and fresh, to pigs or calves. This need not be very hard work, if you are used to milking; but it will be mighty steady, seven days in the week. Then, if you want to get along and avoid hard work all you can, just cut hay for your cows, horses, etc. When some of the land needs re-seeding you can plow it and perhaps in your latitude sow cow peas for hay, or Hungarian grass seed. In the fall turn the land over and put in some wheat to seed with again and to furnish straw for bedding. Then it seems to me I should drop the sheep. This simply becau cows, sows and pigs are enough to look after, and the two go well together, as one needs the milk from the dairy to start the pigs. I should give up the bees also, but do not want to bear on too hard on this point, or you may not heed my words at all. But I tell you, my dear friend, as surely as day follows night, profit comes from undertaking no more things than you can attend to thoroughly well, as a rule. I think the care of the cows and pigs and crops can be made to pay you as much, or more, as though you kept bees and sheep also, and with far less wear on yourself. If you have someone in the family who can take care of the bees and hens, why that is another matter. I judge from your letter that you are figuring on working alone. Too much to do, too many irons in the fire, too many things needing attention at the same time, will wear out any man, who can see such things, faster than mere hard work will with nothing to worry about. And he will not make any more, either, usually not as much clear money, and the satisfaction will be far less.

Now, I know corn is very cheap in Missouri, much cheaper than where I live; the same with wheat middlings. And I should not be at all afraid, myself, if living in that State, to let others raise corn for me, selling it to me usually at about actual cost of production, sometimes less. Then I would turn it into cream and pigs, along with the purchased middlings and the hay that I raised. One does not want to advise anyone else on such a point, but with good business management there is money to be made. Having settled on the keeping of only cows and pigs, I would work until I got cows that would make some 300 pounds, or more, of butter each in a year, or its equivalent in cream. Then breed and keep the pigs so they will never have hog cholera. It can be done. Mature breeding stock only, one litter a year, so as to keep up the vitality of the sows and pigs, a pasture or exercise lot for the pigs every day of their lives, and always enough clover, or cow peas, and wheat middlings to make a strong, healthy growth, in connection with a dry, clean sleeping place and pure water—these are the important matters. Many farmers ignore one or more of them and suffer serious loss from time to time. There is no need of it. Strong, healthy pigs, properly bred and fed, need not have the cholera. Breed from immature animals, and two litters a year, thus weakening the constitutions of both sows and pigs, then feed largely on corn when they are growing, and if there is any hog cholera around such pigs will be likely to take it. This is not particularly for you friend Kelly, for your letter shows that you understand about it. That is one reason why I feel safe in suggesting the above plans to you. The fact that you buy your feed will be likely to keep you from giving the pigs too much corn. It is so easy to do this when one raises a great deal. But all must learn to give growing animals proper food to make growth out of.

Alfalfa Questions from New York.—A. H. Doty, Shakers, writes as follows: "I read with much interest what was said in the P. F. of Feb. 28th about alfalfa. I want to put in a trial acre next spring. How much lime shall I put on? I have plenty of good manure, as we keep 50 cows. Should the ground be manured and limed and plowed in the fall, or spring? I live near Albany. At what time in the spring should the alfalfa seed be sown? We feed corn silage to our cows, and can see that if we can grow alfalfa it will be a great advantage to have it to go with our silage." First, I am pleased that you are not going into the matter rashly, but in a small, careful way. If you follow all the instructions that have been given in the P. F. you will doubtless succeed. For a number of years many farmers in Onondaga Co., N. Y., which is about in your latitude, have been growing alfalfa successfully. The general impression over the East was that this crop could not be grown. When I found these men were growing it, all the same, I began at once to advise its trial in a small way and to tell our readers about the methods of successful growers. Now, I advise you to select an acre of the cleanest land you have, drained at least three feet deep and free from blue or June grass. Manure it well this fall before freezing weather. Plow it as early in the spring as it is dry enough. Then, if you want to use lime, put on 15 or 20 bushels, measured in the lump, but slaked, spreading it exceedingly even. Then harrow it in and work the land every few days until about corn planting time. Then put in the seed. Do not let the land dry up on plowing and seeding. By sowing time it should be exceedingly fine and mellow, but settled and firm, with practically all of the spring moisture still in it. Be sure there are no open air spaces still left in the plowed ground. I would not want to sow early enough to have a hard frost come on the young plants just as they appeared above ground. We sowed the seed on our acre this year about the 15th of May. The plants came up promptly and made a fairly even stand. We used 15 pounds of seed. I sowed a little extra around the edges by hand, to insure an even stand there, and the plants are thicker and grow faster, so far. I probably got 25 pounds of seed per acre on these edges. Eastern farmers used to advise as much as this. Mr. Wing said 15 was plenty. Hope it may turn out so. We sowed the seed alone. The weeds were mowed July 3.

Health Hints.—Breathing.—Do you think that you know all about breathing and that nature will take care of the matter any way? Well, stop right now, please, and answer to yourself one question before reading any further. How does one breathe? The chances are probably 99 out of 100 that you will say, why, that is simple; the lungs inhale air and exhale it, and this causes the chest to expand and contract, **and the same with the abdomen. This is the** common idea, but it is all wrong. Cause and effect have been made to change places. Near the centre of the trunk there is a great muscle extending across inside. It is called the diaphragm. It is the great breathing muscle. It forms a sort of partition in the body. It might be called the floor of the chest and ceiling of the stomach and bowels below it. Now there are two ways of breathing. First, we hold this diaphragm stationary (the floor of the chest), so the abdomen is practically motionless, and expand the ribs. They are movable to a certain extent, you know There are strong muscles that can pull them out. This, you see, causes a vacuum in the chest and air goes in through the nose or mouth to fill it, and thus the lungs get air. When the muscular effect is stopped the ribs, being elastic and springy, drop back without effort, ordinarily, and the air is expelled from the lungs. This is chest breathing—entirely a muscular effort. Understand, the diaphragm, or floor of the chest, being held rigid and the sides expanded by muscles, air passes down into the lungs that are full of air cells. When the muscles relax the natural pressure or contraction of the chest forces the air out. The other way of breathing is like this: Let the ribs remain stationary and lower the diaphragm, the abdomen swelling out. This also causes a vacuum in the chest above the diaphragm and air passes into the lungs to fill it. The raising of diaphragm, and consequently the drawing in of the abdomen, expels the air. This latter is the natural way of breathing when at rest or working moderately When working very hard we need to use the chest method, because we can get more air into the lungs that way, and more air is required always with increased muscular activity. But it takes more energy and more air to carry on chest breathing, as there is more muscular work about it. So there is always a saving of strength and vitality in using the abdominal method of breathing when it will answer the requirements. More, nature has arranged so that breathing does something besides furnish air to the lungs, and something of importance, too. With every full, abdominal breath the diaphragm rises and falls something like an inch, and stomach, liver, bowels, etc., move with it. Without this natural, gentle motion perfect health cannot be the rule. Now let us go back to the first sentence: "Nature will take care of the matter any way." Certainly, if we were in every respect living in a natural way; but we are not, there is the trouble. For one thing, clothes restrict the breathing. The least pressure of what we wear about the chest, or waist, or abdomen, has a tendency to restrain the muscular effort, hence the muscles get weaker, and as a result less air goes into the lungs. The corset, or tight fitting waist, or skirts supported by a band about the waist, all tend to restrict the breathing, and particularly the easy and natural and necessary way of breathing by the expansion of abdomen and waist. This is one great reason why so many females die of lung troubles and suffer so much from poor health. Support the clothes from the shoulders and have them entirely loose about the chest, waist and abdomen, when at home at least, and then have pure air in the house and learn to breathe it deeply and fully, and you will be on the way to perfect health. Again, the air in buildings is almost universally more or less impure. Hence the lungs do not fully relish it and instinctively we draw in shorter breaths. Haven't you noticed your inclination to take some full breaths when you went out of doors from a close room? And also civilization generally tends to produce shallow breathing. If we are reading anything that is very interesting, for example, or listening to anything, or if we are studying over some matter intently, the tendency is to breathe less. I have caught myself doing this time and again. Thus many are getting a good ways from nature and more and more susceptible to disease. I would not banish civilization by any means, but really, my dear friends, with people dying in this country by the hundred thousands from unnecessary lung diseases, it seems to me wise to learn about these matters and give the little attention necessary to assist the lungs about doing their proper work. I do not wish to figure as an alarmist at all, but just to state actual facts. Go into a large audience and look over the people and then think that sooner or later nearly one-third of them will die of lung troubles. The cause is well known, and so is the method of prevention. Next week we will go more into details about how to keep free from these lung diseases, and incidentally to enjoy better health also.

T. B. Terry.

Lima Beans and Manure

WILL KNOER.

For several years I have always plowed deep furrows where we want our pole beans, and filled them full of good, strong horse manure taken directly from the barn under the horses' feet. This was covered over with about two to four inches of soil. I always try to get this all done about Christmas time, plowing the garden at the same time. One winter I plowed it on the 7th of January, but did not get the manure in the bean rows until much later, on account of rains. We planted both pole and the short bush limas in these furrows this spring, and while others everywhere are complaining of no beans to eat, we have enjoyed them greatly. I have been with a threshing machine and traveled over considerable ground. Almost everywhere beans are gone, or nearly so; vines clear dead. On looking over ours this morning I find them to be quite full of bloom and beans. Now, if everybody would do this way they would find their beans would far outyield those planted without the manure. Besides, the beans are finer, larger and better in every way. Through all last summer those beans were only hoed three times, and cultivated once, on account of the interference of other work. A strawberry bed set in this way is a wonder to look at in a year's time, provided it is kept clean and the ground well cared for. In fact, I cannot find anything that manure hurts if rightly applied. My trouble lies in not getting enough to reach around.

Huntland, Tenn.

Intensive Farming.

C. M. GINTHER.

The methods of a practical farmer who accomplishes more with the same means than his neighbors, can always be studied with care and may be imitated with profit. The "paper farmers" are all right in their way, and no doubt do their share in building up the business and uplifting the occupation, but the practical man who "does" instead of "talks," is the one who is deservedly followed. In the matter of corn cultivation and corn feeding it would seem that all had been said that was worth saying, and yet judging from the achievements of some progressive farmers with the "king of grains," one may find profit in further study. One farmer in particular, who lives in Eastern Indiana, has followed methods that are absolutely new in the matters of corn cultivation and corn feeding and the results he has accomplished are surprising. As a corn raiser he is by far the most successful of any who have attracted general attention, and if there are any who surpass him they have not been found out by the present writer.

He plants every year about sixty acres in corn. He is an apostle of good and thorough farming rather than tremendous farming; he is an intensive rather than an extensive farmer. He has not failed in many years in raising 100 bushels per acre, and last year his crop averaged 112 bushels per acre. His land was not extraordinarily rich in the beginning, not more so than are tens of thousands of acres yielding less than half that amount, but he pursues the sensible method of returning to the soil the chemical properties taken off by corn, while his neighbors usually gave no heed to that question. He procures fertilizers that cost much less than the value of the increased corn production, and by practicing this sensible course not only keeps up his land and raises immense crops of corn from the same fields every year, but actually increases the fertility of the land.

When he breaks up the ground he plows very deep, but does not use a subsoiler. Then the ground is put into the very best possible condition. The corn is planted 12 inches apart and very shallow, not to exceed an inch in depth, and he prefers a half inch depth where possible. The idea is that the main strength of the early plant is to nurture the roots of the corn, which penetrate downward in search of the moisture which must sustain the plant to maturity. If the seed is put into the ground too deep, the strength of the plant will be expended in sending the shoot up into the air, without which the plant can no more thrive than it can do without the moisture found beneath the surface of the ground. Immediately after the planting is done this farmer commences to stir the ground. It is cultivated to a shallow depth and kept open, so that the sun and air may penetrate and the moisture in the ground be coaxed up from the depths to water the roots of the young plant. This is a very important stage in the growth of the corn plant. Shallow cultivation is carried on until the double cultivator can be used no longer, when it is continued with a single horse implement. This manner of cultivating the corn, frequent, shallow and thorough, is kept up until the ears of corn are so large that the horse in passing frequently breaks one off. Then the work is stopped and the field given a short term of rest. When the cultivation ceases is the time when the search is made for barren stalks, for it has been ascertained that in order to produce such immense crops every stalk must mature an ear, and many of them two. The field is gone over row by row, and this work is never trusted to anyone else than the proprietor himself. Every barren stalk is cut out. This process has been continued for a dozen years, until the seed has become practically pure. The purpose in gleaning out the barren stalks is to prevent the pollenization of bearing stalks by barren ones. There is pollen on the barren stalks as well as on the bearing ones, and the effect of the two mixing is to reduce the yield of the bearing stalks and not cause any ears to grow on the barren ones. By following this plan for a number of years the corn has been practically freed from barren seed. In a field immediately across the road from this model corn field I last fall counted enough barren stalks to convince me that at least twenty per cent. of the stalks were non-producing. In order to grow a hundred or more bushels of corn to the acre it is absolutely necessary that every stalk grow a good ear, and also that they stand close together.

As soon after the corn is laid by as is practicable, and long before it is dry enough to crib, this farmer goes abroad into his field and examines the grain in the yet green husk to ascertain if the stalks may be cut up and shocked. It requires some knowledge to determine just when it is fit to be cut and shocked. It must not be before the grain is fully formed, nor must it be after the shrinking, which follows the fruition, has begun. It must be at that stage when it is too hard for roasting ears and before the husk has begun to dry. When that exact stage is reached the corn is cut up, every stalk of it, and put into shocks so small that as many as sixty to seventy stand on an acre. The natural juices of the plant are all in the stalk at the time described. By drying rapidly in small shocks these juices are retained and greatly enhance the food value of the stalk. It is when corn is cut and cured in this way, and further prepared in a proper manner that it easily acquires the title "King of Grains." Just as soon as the corn becomes dry enough in the small shocks to crib, it is husked out and thrown into the crib. Then the stalks are taken to a shredder and torn up in the manner familiar to all farmers nowadays. The manner in which this shredded fodder is disposed, however, is the secret of much of this farmer's financial success. Every particle of grain and food raised on this farm is fed there, and as many as two hundred hogs and sixty cows are fed from the products of less than one hundred and sixty acres.

When the fodder is shredded it is taken to an empty mow in the barn, over the floor of which a layer of clover hay a foot thick has been placed. Over this hay the fodder is spread to an equal depth, after which hay is again laid over, then another layer of fodder, and this process of filling the mow with alternate layers is continued until the mow is as full as desired or all the material stowed away. The clover hay absorbs the moisture remaining in the fodder and causes it all to be kept sweet and pure. When taken from the mow a hay knife is used to cut down through all the mass, after which the hay and fodder, mixed as described, is run through a power cutting box and cut into lengths of half an inch. This is cast into a big feed box and thoroughly thrown together. Then ground grain is thrown over it and after being thoroughly mixed is wet and salted. This food is given to horses and cattle, and every bit of it is eaten up and fully assimilated, and consequently every bit of the crop is saved. All the farm animals except hogs have their food prepared in this way. Every bit of the corn growth is fed and nothing is wasted. This enterprising farmer feeds no grain whole except to poultry. Neither does he feed corn ration alone, but prefers to mix the ground corn with ground rye, oats, mill stuff, shorts or bran. The meals mentioned, mixed together, supply the properties horses and cattle require, especially the milch cow which is expected to yield a large flow of rich milk.

This farmer has actually grown wealthy, as the term is understood among Western country people, by farming his 160 acres intensively and he urges all farmers to cultivate more thoroughly and leave off attempting to farm more land than they can cultivate well. The main business of the farm is caring for the sixty head of milch cows. The thoroughly prepared food and excellent care they get makes them give such excellent milk that it brings every day in the year twenty cents a gallon at the farm.

Indiana.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Grass for Pasture.—Henry Bricker, Hicksville, O.—"Which is the best to sow for pasture, orchard grass or Kentucky blue grass in Northwestern Ohio? Soil a clay loam. How will orchard grass hay compare with clover in quality?" If your soil is limestone, the blue grass will be the best. But in sowing for pasture it is always best to sow a mixture of grasses, and then the one which is best adapted to the soil will finally make the sod. We would advise you to sow the following mixture per acre: Orchard grass, 10 pounds; red top, 5 pounds; Kentucky blue grass, 10 pounds, and white clover, 5 pounds. Mix and sow the grass seeds and scatter the clover, as it will not stay mixed with the grass seed, being heavier. Orchard grass hay, cut as soon as heads appear, compares favorably with other grass hay but no grass can be compared with clover, since legumes, like clover, alfalfa, peas, etc., form a class to themselves, being much richer in protein than any grass hay. Properly cured clover hay has a far higher feeding value than hay made from any grass.

Silo Construction. — H. H. Jacobs, Cush Creek, Pa.—"I am anxious to be informed concerning a silo and silage. Have read considerably about them, but have no knowledge as to the construction of a silo or the making of ensilage. It is foreign to this section. I am impressed with the idea that the silo is what I need on my dairy farm, and will build one as soon as I am educated to that point. Kindly refer me to some authority on silos and silage or explain in the P. F." It seems odd to one who has been accustomed to silos and silage for over 25 years to learn that there is still a dairy section where the silo is unknown. Since we first began to make silage the silo has gone through a complete evolution We no longer dig deep and expensive pits in the ground, but have learned that the best silo is simply a big tub set on a brick foundation without any bottom, and not necessarily with a roof, though for comfort and convenience we would always put a roof over it. The corn is cut when in the roasting ear state and is cut by power machinery into short pieces and stored in the silo. When well settled the silage will weigh about an average of 40 pounds per cubic foot from bottom to top, and the size can be determined by the number of cows to be fed, as about 35 to 40 pounds a day will be good feeding. Silos are now built and kept in stock ready for shipment by a number of makers, and they are advertised in the P. F. We will have a more exhaustive article on silos and silage soon. In the meantime get a copy of Prof. Thos. Shaw's book, "Soiling Crops and the Silo," price, $1.50, from The Farmer Co.

Catarrh
Is a constitutional disease.
It originates in a scrofulous condition of the blood and depends on that condition.
It often causes headache and dizziness, impairs the taste, smell and hearing, affects the vocal organs, disturbs the stomach.
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Farming in Mo.—J. L. Garber, Mo.—"I hope you will excuse me for intruding on your valuable time, but I feel that I must thank you personally for the great blessings you have bestowed on the struggling farmer by your earnest zeal in inducing them to use better methods in their farm work, and so earnestly advising the sowing of the Southern cow pea. I, as well as my farm, was growing poorer year by year in our endeavor to keep up our land by sowing clover. The past ten or twelve years, manage as we would or could, and trying all advisable ways, our clover has invariably failed and money for seed gone, time gone and loss of proper rotation of crops gone. A few years ago my son, our only child, said, 'I think when I am of age I must go to St. Louis for employment, as so much of our 53 acres of land is getting so poor it does not pay to crop it any more, and you throw away $5 to $10 every year sowing clover seed and get no stand.' Now through your writings we commenced sowing the Whippoorwill cow pea and it would do your heart good to see our crops grow where formerly it did not pay for the cultivation. Notwithstanding the great drought of last year I pastured the cow peas off of four acres, harrowed (did not plow), then sowed timothy; so dry the seed did not sprout. This spring sowed clover; when rains came both clover and timothy came up and grew amazingly. So nice and green it could be seen a mile away. I have sown peas this year to follow with rye this fall, and plow down in spring and plant to corn. Will plant about one and a half acres to strawberries in the spring. My heart does not ache now, as my son says he will not go to St. Louis now as we are improving our farm very fast by the use of the peas. We haul some manure from St. Louis, but it is so far (11 miles) that we can make but one big load per day; with good team can haul three tons, as we have rock roads. I have a few questions I would like to ask and as I do not know that they will be of general interest for your paper I enclose stamp for a very brief reply. Owing to the showery weather at haying time I put several tons of timothy hay in a mow 12x16 feet. Shall I take hay out when I have leisure time and stack it and put my cow pea hay in the barn, or shall I stack the cow pea hay out of doors and top stack with wheat straw? I believe the cow peas ought to be put in the barn but have had no experience in stacking. Hoping I am not intruding beyond forbearance I will say that the P. F. must be lifting a great burden from many a struggling farmer's shoulders, as it has from mine through its advice to try peas." We would take the timothy hay out and stack it and put the cow pea hay in the barn. Cow pea hay does not stack well, though it is often stacked. Some of the best pea hay we have seen was put into rail pens and then a straw stack put on top of to shed the water. By wiring the corners of the pen you can make quite a tall pen, and the hay when wilted enough will cure there as well as in the barn. The rail pens will answer all purposes if you do not care to move the timothy from the barn.

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Turns earth to or from stumps. Is sure death to bushes, bunch grass, witch grass, hardhack, thistles, wild rose, morning glory, milk weed, sunflower, or any wild plant and is guaranteed to kill any bush, rose or plant that grows, leaving the land true and clean for any crop. Send for circulars.
CUTAWAY HARROW CO., Higganum, Conn.

Mustard and Lettuce.—A. G. Higgins, Belwood, N. C.—"When is the proper time to sow mustard and lettuce in the fall for early use in the spring? How shall I prepare the beds? Please answer in the P. F." We have never sown mustard in the fall, but generally among the first things in the spring, as the fresh gowth is far better. For winter and spring greens we sow Round Seeded spinach first, the last of August and again the middle of September in rows wide enough for cultivation. This is cut all through the winter, and makes the best of boiled greens. We also sow some Green Curled Scotch kale in September in the same way, for cutting in winter and early spring. Lettuce is the main salad crop grown, and is now one of the most important crops grown by the truckers in Eastern North Carolina for Northern markets during fall, winter and spring. Most of the market growers use frames about 12 feet wide, protected by cotton cloth rolled up and down like awnings, and in this way get very fair crops. Far better lettuce, however, can be produced in the ordinary cold frames with glass sashes and straw mats for extra protection in very cold weather, for while unheaded will survive our winters in the central and eastern part of the State, it is very easily spoiled by hard freezing after it is headed, and much damage is often done when snow happens to fall on the cloth covered frames and is followed by severe cold. We manage to have well headed lettuce without a break from November to May in the following way: The first sowing is of the Big Boston lettuce the latter part of August. The seed is scattered broadcast on any convenient ground in the garden, thinly, for if sown in rows in beds we are always apt to get them too much crowded, while thinly sown broadcast we can get stout single plants if we only sow an abundance of seed. These early plants are set in frames a foot apart each way in soil made very rich with old rotten manure supplemented with a complete fertilizer rich in potash at rate of 1,000 pounds per acre. Neither manure alone nor fertilizer alone will make the finest heads of lettuce. The early sown plants are fully exposed to the weather until it threatens to freeze hard, when cloth is drawn over the frames at night, and the crop heads late in November and into December, usually lasting to about Christmas. A second sowing of Big Boston is made about the first of October and the plants are set in frames that are to be protected by cloth only when the weather is extra cold, the object being to just keep them fairly alive for heading in March. In meantime another sowing of Big Boston is made the middle of December, and in November these plants are set in the frames that are to be covered with glass in winter. The glass is put on as soon as the nights grow cold, and when extra cold weather threatens mats are placed over the glass at night to completely exclude the frost. This lettuce is cut all through the winter until March. A fourth sowing is made in the frames under glass about first of February. This time we use the Wonderful. These plants are set in well enriched land in March in the open ground, and head in April and May, and as this lettuce at that season makes immense heads it is often the most profitable crop of all. Many of our market growers who use cloth only do not attempt to have lettuce in January and February, as they say that they cannot then compete with the Florida lettuce. But if they used glass and mats they could send to market far better lettuce, and in better condition than the Florida crop, and would compete with the hothouse lettuce of the North. In your section of the State, which is much colder than the eastern section, you can grow lettuce during the winter in glass covered frames, or you can sow in September and simply protect the plants in frames with cloth during the cold weather, and have them head in the spring. For this purpose you will find the Wonderful lettuce the best, but it is of no use for mid-winter forcing.

Box Drains. — G. H. Linton, Kerby, Ore.—"In your note to Burton Singleton's article on tile drains, page 382, you state that drains made of four narrow planks nailed in shape of a pipe and breaking joints on opposite sides will make as good drains as tiles for twenty years or more. Please make the description more explicit. There are so many places in this country where tile is impracticable on account of cost and where lumber is cheap, that if there is any way to make drains of plank it should be known. What puzzles me is how the water is to get into the drain when the planks are nailed together." We were not writing at random, and never do on any practical subject. We know plank drains which have been down and are still good and draining the land for over twenty years, and the drains were made of sap pine. Any lumber lasts well when kept from the air and always wet, but your Pacific coast red wood would be absolutely indestructible in such a place. The boxes or pipes are made of plank six inches wide. They are nailed into a continuous box or pipe by having the ends break joints alternately on opposite sides. That is, make the ends of the two side planks come opposite each other, and the ends of the top and bottom plank come midway the sides. This to prevent them getting out of line as they might if all the ends were at the same place. You need not fear that the water will not get in, for it will pass in at all the cracks. Drains of this sort have been running cold spring water continually for over twenty years, and where the bottom is springy or quicksand they are not only cheaper but better than tiles. About twenty years ago we drained a low piece of bottom in the Virginia mountains, from which the neighbors had been cutting ice for years. It was in the form of a cove of several acres, surrounded by steep hills. We cut a ditch around the base of the hill to cut off the springs, and from this ditch cut a series of ditches straight to the river. Pine poles were skinned, each about four inches thick at the butt. Two were laid on the sides of the ditch and one of the largest on top of these so as to leave a passage for the water between them. They were then covered with pine leaves to prevent the earth from getting in and the ditches were then filled. We saw that piece of land two years ago, and it was covered with fine clover and the pole ditches were still good, and we expect that they are still good.

Orchard Grass. — H. E. Riggs, Warsaw, Pa. — "Does orchard grass make good hay, and is it a permanent grass? Will it do well on hill land of fair quality and make more hay than timothy? Can I seed it with oats and mix with clover the same as timothy, and is the hay as good as timothy? Is it suited to low land? How many pounds of seed per acre?" Orchard grass is an earlier grass than timothy and associates better with clover than timothy does, since both are ready to cut at same time. It is far more permanent on uplands than timothy is, as it has a very strong root system that prevents its burning out as the shallow roots of timothy will sometimes. It makes as fine hay as any other grass provided it is cut at the right time; that is, as soon as the blossom heads are out. If left like some leave timothy, it will be utterly worthless. It is better adapted to hill land than to low land and better on the hills than timothy. On low bottom land we would prefer timothy. You can sow it with oats in the spring or with wheat or rye in the fall. Use 20 pounds of seed per acre.

Velvet Grass. — G. A. Michaels, Belsam, Pa.—"I send some heads of grass that volunteers here in meadows, and apparently likes low land. It grows by the roadside as tall as timothy and makes fair hay. Please name the grass, and its value, and where the seed can be bought if valuable." The grass is Holcus Lanatus or velvet grass, so-called from its soft, downy heads. In the Northern States it is generally considered a worthless weed, as it seems bitter and cattle do not eat it readily. As it goes South it seems to increase in value, and in Louisiana some farmers prefer it to any other grass. We do not think that you will find it a desirable meadow grass in your section, and doubt if the seed is on the market, as we do not find it listed in the catalogues.

Cultivating Cotton. — W. M. Parks, Poortith, N. C.—"The question is being asked, how long shall we cultivate cotton? Must we stop when the roots get well out in the middles, or work until the lower bolls are beginning to form? I have decided to refer the question to you. Please give your opinion in the next issue of the P. F." As our friend hardly realized the impossibility of getting a reply in the P. F. the next issue, when that issue is in press when his letter is received, we have written a brief reply personally. But as there are probably others in the same quandary we will answer here. If the cotton is cultivated in the old way, by deep working and hilling with the plow or sweep, it will be better to stop the cultivation when the roots get across the rows, since such working will be apt to damage the roots. But if the cotton is being worked level with a small tooth cultivator, or even with a sweep run very shallow, it will be an advantage to keep the cultivator going until the bolls form. Shallow, rapid cultivation, with as little hilling as possible, never allowing any crust to form in the rows, and never going deep enough to injure the wide spreading roots, will give better results with any hoed crop, and cotton is no exception. Cotton, like corn, sends its roots far and wide, and any deep cultivation that tears the roots is a disadvantage to the crop. All who have tried the flat and shallow cultivation in the cotton field have never found any reason for going back to the old hilling method. Good deep preparation for the crop and the use of the smoothing harrow and weeder in the early stages of growth and the small tooth cultivator afterwards are the modern means for cultivating hoed crops.

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Fanning Mills.—Here are some queries to every reader of the P. F. Do you own a fanning mill? Are you thinking of getting one? What kind do you expect to get? Why should every farmer own a mill? We want information from every reader on the above questions. Answer these questions on a postal and send it to the publishers of The Practical Farmer and we will send you a beautiful illustrated booklet on the fanning mill question absolutely free. Send now.

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FORAGE
FOR LATE SUMMER AND AUTUMN.
I cannot too strongly urge upon farmers the importance of sowing some cow peas or soy beans during the month of July. If the ground be properly fertilized there will be a fine growth of valuable forage before the coming of frost. This forage can be fed green or cured for hay.
COW PEAS
and soy (or soja) beans are highly nutritious, being fully equal to clover for producing milk or making flesh. They are leguminous or nitrogen-collecting plants, leaving the soil richer than they found it. They need a fertilizer containing phosphoric acid and potash, and such a fertilizer costs but little money. Cow peas and soy beans will pay handsomely, whether fed green or made into hay or plowed under for green manuring purposes.
Whip-poor-will Cow Pea. I especially recommend this variety for the North. It is a quick-maturing bush sort.
Black Cow Pea is a trailer, but it matures so quickly that it may be planted North or South.
Wonderful (same as Unknown). I recommend for the South. It is a trailer, yielding an enormous amount of fodder, but not maturing as quickly as others.
Price of either of the cow peas, per peck, 60 cents; per bushel, $2.25.
SOY BEANS
are quite as valuable in all respects as cow peas, and may be treated in the same manner, using the same amount of seed per acre. I sell a strong-growing, upright or bush sort which makes a quick growth.
Price of soja or soy bean, per peck, 75 cents; per bushel, $2.50,
Sow broadcast or in rows; 1½ bushels broadcast or 1 bushel per acre if sown in rows 3 feet apart.
Sow before end of July, the earlier the better.
WM. HENRY MAULE.
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☞ If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.41, only $9.36 per quarter, and will keep your business in a healthy and profitable condition.

Soy Beans.

PROF. A. M. SOULE.

The soy bean is a comparatively new crop, having been introduced into the United States less than fifty years ago, and it is only cultivated to a limited extent at the present time. The plant is a native of Japan and China, where it has been grown indefinitely and used principally as human food for two reasons; first, owing to the nature of the climate, and second, to the scarcity of animal products. Owing to the wide territory over which corn can be successfully cultivated and the ease with which it has been produced, many other useful and profitable crops have been neglected by the farmer, and among the list is numbered the soy bean. The plant will grow under a great variety of soil and climatic conditions, being practically co-extensive in its range of culture with corn. The expense of the seed has doubtless militated against its more general culture as well as a failure to understand its full value for feeding to farm animals. The green feed is also richer in feeding nutrients than ordinary corn fodder, and the straw after the grain is threshed, though somewhat harsher and containing a large per cent. of fibre shows a higher per cent. of digestible nutrients than corn stover. The following table shows the percentage of food constituents in the different forms of soy beans, corn, cottonseed meal and linseed meal.

	Water	Ash	Protein	Fiber	Nitrogen Free Ex.	Fat
Soy beans, green	75.1	2.6	4.0	6.7	10.6	1.0
Soy bean hay	11.3	7.2	15.4	22.3	38.6	5.2
Soy bean straw	10.1	5.8	4.6	40.4	37.7	1.7
Soy bean meal	10.8	4.5	36.7	4.5	27.3	16.2
Soy bean silage	74.2	2.8	4.1	9.7	6.9	2.2
Green corn fodder	79.3	1.2	1.8	5.0	12.2	.5
Corn stover	40.5	3.4	3.8	19.7	31.5	1.1
Cottonseed meal	8.5	7.2	43.3	5.4	22.3	13.5
Linseed meal	10.1	5.8	33.2	9.5	38.4	3.0
Corn meal	15.0	1.4	9.2	1.9	68.7	3.8

Soy beans will make a larger yield per acre on ordinary soils than they have been generally credited with, due probably to the fact that they are now better acclimated than they were when the first experiments were undertaken with them, and to a better knowledge of how to cultivate the crop so as to secure the best yield. On the Tennessee Station farm some varieties of soy beans have failed to yield more than from 8 to 15 bushels, but one or two varieties seem to be especially well adapted to the Southern Appalachian region and yield well, producing from 20 to 35 bushels of seed per acre. This is as large a yield as is ordinarily obtained from corn on similar kinds of soil, but it must be remembered that the soy bean is much richer, bushel for bushel, in feeding constituents than corn, and so a yield of 35 bushels per acre really produces a much larger percentage of food nutrients per acre than the corn. A crop of Hickory King corn, a variety well adapted for growth on upland soils, Early Amber sorghum, Mammoth Yellow soy beans and Whippoorwill peas grown at the Tennessee Station farm made the weight of green crop shown in the following table, which also gives the digestible nutrients produced by each crop:

Crop	Whole crop tons	Digestible Nutrients Protein lbs.	Carbohydrates lbs.	Fat lbs.
Hickory King Corn	9.34	188	2,608	90
Early Amber Sorghum	17.43	209	4,252	139
Mammoth Yellow Soy Bean	9.41	592	2,070	94
Whippoorwill Pea	12.28	424	2,130	48

Notice that the Mammoth Yellow soy beans produced 592 pounds of digestible protein, or three times as much as Hickory King corn, more than twice as much as Amber sorghum, and considerably more than the Whippoorwill cow pea. One would suppose that the whole corn crop would produce a much larger percentage of digestible carbohydrates than the soy bean, but the figures do not show as wide a difference as one would naturally expect. With regard to the fat, sorghum produced the highest, though the corn and soy beans were about equal, producing twice as much fat as the Whippoorwill peas. The food nutrients produced per acre by this crop are simply enormous and now that the time has come when the farmer must consider carefully the economy of producing a pound of flesh whether it be in the form of beef or pork, the importance of discovering the crops that will produce the largest yield of digestible nutrients per acre with the least draft on the soil becomes a matter of serious moment. Not all the varieties of soy beans grown would have shown the same result, as the Mammoth Yellow variety seems to stand head and shoulders above every other variety tested so far. This brings us to the important consideration of the question of variety, which so often establishes or destroys the value of a crop in the eyes of the farmer. It is not wise to purchase any variety of soy beans that is offered for sale; try them once or twice and conclude that the crop has no value because a satisfactory yield is not obtained. It would take longer than that to adapt them to the local environment and it is a well-known fact that varieties of apples, strawberries or grapes cannot be introduced indiscriminately into different localities, and so this matter of selecting and choosing the variety of soy beans to be grown very carefully and then giving it a thorough and impartial trial before discarding it cannot be emphasized too strongly. The Mammoth Yellow Soy bean will give as good results on the average farm as it has made at the Station for the last three years, and it is a crop worthy of cultivation on every farm where it can be grown. It may be a difficult matter to secure pure seed of the Mammoth Yellow soy beans, as the seeds of many varieties look exactly alike and it would not be a difficult matter to deceive the purchaser.

Soy beans have not been grown extensively enough to permit of their feeding on a large scale to either beef or dairy cattle. They have been fed quite extensively, however, to dairy cattle and hogs at the Kansas Station, where it was found that three pounds of soy bean meal could be substituted for an equal amount of linseed meal with satisfactory results in feeding dairy cows. It was also found that by adding from one-third to one-fifth soy bean meal to a ration of corn and Kaffir corn, that from three to five pounds more gain was obtained from a bushel of the mixture than from feeding the Kaffir corn meal or the corn meal by themselves.

In experiments with hogs concluded the past winter at the Tennessee Station it was found that as good results were obtained from feeding the skimmilk with two parts of corn meal to one part of soy bean meal as from feeding the skimmilk and corn meal alone. This would indicate that soy bean meal was nearly as valuable for finishing hogs as corn meal. Of course, the high per cent. of protein in the soy bean meal tends to produce a larger per cent. of lean meat than where corn meal is fed, and in sections where very fat hogs are desired it would be necessary to have the ration consist of at least one-half corn meal. As the tastes of the people become more discriminating and there is a desire for better marbled bacon and hams; that is, flesh containing a better admixture of fat and lean, the soy bean will be even more valuable as a feeding adjunct for hogs than at the present time. The one thing standing in the way of its successful use as a feeding adjunct at the present time is due to the high price of the grain. This difficulty will disappear when the crop is extensively cultivated as its utility would warrant.

Tennessee Experiment Station.

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Raising Calves.

MAE E. GRUVER.

My father is a subscriber to the P. F. and looking through it I read about some people's experiences in raising calves. If I don't intrude or take too much of your time, I will give my experience, as I also have been raising calves in a small way, for the last three years. I take great pleasure in it, don't know whether the profit is as big as in some other things; but anyhow I have raised twenty-six so far. The first year I raised three, the second year five, and the third eighteen, and all are well and hearty, with the exception of one, which was incurable with paralysis of the kidneys, and so we killed it. It isn't such a hard job if one has a little patience. As you say in your paper one must have calf patience. My way of treating them is as follows: I let them suck the cow until two weeks old, "with the exception of one or two of which the mother died, I had to begin treating right away." Then I give them whole milk for two or three days, after that I put them on skimmilk. A little white middlings and a tablespoonful of flax seed meal, stirred up with cold water, so as to keep it from getting lumpy, then scald it with boiling water, then add three or four quarts of milk, so that it will make five quarts, twice a day, have the slop luke warm; and with scours I have been troubled very little; if they do get the scours for me I give them a raw egg twice a day or two tablespoonfuls of good dried out dried beef cut or chopped real fine twice a day, and that cures them. I have a stall for each one and a box beside it, where I put bran and hay in, and they begin to eat very quickly. After they are three months old, they eat mixed feed bran and hay and drink cold water, for which we let them run out in the yard where they help themselves at the trough where the spring water runs freely. At first it seemed a little tiresome; but now when I come to the stable it is pleasure to see them all in a row with their heads up looking at me as much as to say, good morning or how-de-do.

Now I have a nice lot to gather in, and expect to keep on raising for the present. Those that seem to be real good stock, I keep for breeding and those that don't look quite so good, I have altered to steers, and the heifers I keep in the baby stable until they are almost ready to come in profit, then I put them in the large stable with the milk cows, and in a very short time I expect to sell, instead of buying every time I want a fresh cow. I feed grain all summer, and what pasture I have, which is not much. I sow corn early as possible, then later at different times, which helps me out. I find bulls most profitable, because they are ready for the market sooner than the heifers. I have a dairy of thirty cows, and from those I select the best calves for raising, the rest are sent to the butcher. I don't want to brag, but if you can find any single woman who can beat this experience please let us hear from her.

Mountainville, Pa.

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U.S. CREAM SEPARATOR
EXCELS EVERYTHING
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KANSAS STATE COLLEGE
Read carefully Press Bulletin No. 123, issued May 26, 1903.
The U. S. Separator excelled the five other separators in the competition, but we refer to one only in this space, viz: our "would-be competitors."
DeLaval average test of skimmilk, . .048
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This shows that the DeLaval Separator left 45 per cent. more butter-fat in the skimmed milk than the U. S.
These tests substantiate former records and are continued proofs that
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VERMONT FARM MACHINE CO., Bellows Falls, Vt.
319

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Fistula of Milk Duct.—I have a cow that has a hole in the side of one of her teats, the same as in the end, and when milking her the milk comes from both openings.
Laddsburg, Pa. E. WALTMAN.

The abnormal opening can be closed by a neat, well performed operation. Cleanse and dry teat thoroughly. Insert a clean milking tube. With sharp, clean scalpel shave out the edges of the abnormal opening until they bleed. Now cut out with very sharp, thin-bladed scalpel a number of leaf-like slits from above downwards through abnormal opening and almost so deep that they touch milking tube within duct. Make the slits side by side and close together and let them commence at each side of the opening and extend above and below it. This done, dust the wound with iodoform, then bandage with heated strip of surgeon's plaster from end of teat to juncture with udder. Milk is to be withdrawn by means of milking tube for a week, after which the milk may be removed in usual way while plaster is still in place. Remove plaster with hot water in ten days to two weeks. Give cow a pound dose of epsom salts in two quarts of warm water just before operating and a tablespoonful of saltpetre night and morning for four or five days afterwards. It is best to reduce milk-making food and keep cow off pasture while plaster is in place. The operation is best done after cow dries up.

Joint Disease.—Urticaria.—I have a colt; dropped May 29th; had struggled enough before the navel cord was cut to cause some swelling of the navel, but seemed all right until about ten days ago; since that time there has been a large lump on middle joint of hind leg and seems to be stiff all over. Can water, but with pain. Would it do any good to cut the lump on the joint open, or poultice it? There are three more colts in this vicinity affected the same way, but one of them has the lump on the front leg joint instead of the hind. Where we live it would cost quite a little to have a veterinary visit the farm. Would it pay? 2. Have a fine 2-year-old colt that has little lumps over his body like fly bites, but as they were on him before warm weather, in March, I think it is not fly bites. He has been and is still itchy. Worked him on roller and other light work but never overheated or overtired him. He had lumps before beginning to work him. Will they wear away now that he is on grass?
Jacksonport, Wis. HARRY WILSON.

1. It is difficult to say whether you have a true case of joint disease from navel infection in this case, so that we do not feel justified in advising you to lance the enlargement. If it contains pus there will be heat and pain and colt will go lame in that leg. In cases of infection of the navel abscesses usually appear at more than one place. If you find that enlargement is sore as alluded to, then poultice it for a few days with hot flaxseed meal, and when soft open carefully and treat as advised under this head in back numbers of the P. F. You will remember that the disease is to be prevented in future by applying antiseptic solution to the raw navel cord, as we have advised in the answer to which you allude. 2. The skin disease is probably nettle rash or "urticaria," as it is technically termed and a sudden change of food, as grass often aggravates rather than removes it. See that chicken lice are not the cause. They may be suspected if colt has been kept in stable near chickens, or if they have had access to his stall. In that case would advise washing with a 1-100 solution of Chloro-Naptholeum, which would also be found effective in ordinary skin disease. Also give him in drinking water a tablespoonful of glauber salts night and morning to keep bowels open. Avoid corn as a food. Give a bran mash at least once a week.

Cow Pox.—Worms.—1. Two weeks ago eruptions came on udder of heifer where it chafes against her leg; has gradually spread over one side and part of back of udder; eruptions are size of small peas, with yellow pus in them; they break and then dry up. They seem to be in the skin of udder, which is thickened slightly where they are numerous. Does not affect her milk flow. We began to dry her yesterday, and this morning there are pimples breaking out about 2 to 3 inches apart over rump, back and neck and she coughs slightly. 2. Horse is always hungry; don't take on flesh readily, and passes worms 6 inches long.
Concord, N. H. DUNN BROS.

1. Heifer is undergoing an attack of cow pox and she should be kept away from other cows, as the disease is contagious. It is usually spread from one cow to another through the medium of the milker's hands, so that if there are a number of cows to milk the affected one should be milked last or by a different milker and he should wash his hands in antiseptic solution after milking, as the disease is sometimes communicable to the hands of the milker. Give her a one-pound dose of epsom salts and one ounce of ground ginger root in two quarts of warm water, and when it has operated give an ounce of hyposulphite of soda three times daily dissolved in water. Feed her on soft, light food. Wash udder as you have been doing, or substitute a solution of one ounce of hyposulphite of soda in a quart of soft, clean water. If the sores on teats cause trouble when she is milked use a milking tube and smear sores with glycerite of tannin after milking. 2. Have horse's teeth put in order by a veterinary dentist. On empty stomach give two ounces of turpentine in a pint of raw linseed oil very carefully from long-necked bottle. Follow with a drachm of dried sulphate of iron in the feed night and morning along with a similar dose of saltpetre, ground ginger and powdered gentian root. Drop out the saltpetre after four days and stop the other powders at the end of a week, then skip ten days and repeat. Avoid feeding hay from low, wet ground as the worm eggs usually come in such food. Turpentine and oil may be repeated in two weeks if he is still showing presence of worms by a "furr" of gray, scaley material around anus. If he falls to pick up after the worms have been gotten rid of it is possible to "slick him up" quickly by feeding a quart of New Orleans molasses night and morning first adding an equal amount of water, shaking it and then mixing with cut hay and a mixture of bran and corn meal or ground oats. If you use the molasses feed whole oats at noon.

Spavins.—I bought three cheap horses this spring and all are unsound. One, a driver, has two spavins and he doesn't get fat. Are they the cause. His water is thick and yellowish. Gets same feed as work team; new hay and ground feed. No. 2 has a stocked leg, caused from walking in hot ashes. No. 3 is all right, except a touch of spring halt; only shows it when he tries to step sidewise, then he tries to dance the two-step with his hind feet. B. N. STILES.
Grand Rapids, Mich.

1. If spavins cause intense pain when he is worked they might cause the poor condition but this is unlikely. Indigestion is a more likely cause and evidently present here, as shown by the condition of his urine. Stop feeding ground food. A horse should grind his own food and have plenty of time to do it properly at meal times. Prefer old hay if you can get it and after having his teeth put in order by a veterinary dentist feed him whole oats three times daily and always give the drinking water before and not after feeding. Let him have a box stall in stable. If he is still thin in cool weather put him on a course of molasses feeding and he will soon become slick and well. See reply to Dunn Bros. in this issue. 2. Treat this horse as advised in answer just referred to. 3. The horse is afflicted with chorea, which is incurable. It is a nervous disease akin to St. Vitus' dance of man.

Pasturing Oats.—Kindly inform me if green oats will hurt sheep and horses if allowed free range on them, or is it best to let them ripen before turning horses and sheep on them? ANNA A. PEACH.

Green oats will not hurt sheep and horses if they are very gradually accustomed to such food. They should be fed hay before grazing, and should be turned on the oats for a short time at first and always when the dew is off or the field is not wet with rain. They are best grazed before the grain forms or ripens. When oats have formed heads they are best cut and made into hay unless left to ripen to be cut for threshing in the usual way. When pasturing this or other green crop care must be taken to supply plenty of water and salt. Where an answer by mail is desired a fee of one dollar must accompany letter, as stated at the head of this department.

Stocked Legs.—I have a fine horse. His hind legs from his pastern joints down to hoof swell while standing in stable; does not seem sore or stiff; just enlarges when he is still. His work is common farm work; nothing heavy for him to do. Is there anything I could do to stop this enlarging of pastern joints? G. L. LEWIS.
Dail, Tenn.

Swelling or "stocking" of the hind legs when animal is idle, indicates general sluggishness of the blood circulation, due to heart or liver disorder and indigestion. We usually find that where this is the case the horse is drinking hard water, inhabiting a dirty or badly ventilated stable, having little attention paid to feeding and irregular exercise instead of steady work. In other cases the trouble may be due to scratches, grease or interfering. In seeking for a remedy it is necessary to put the general health of the horse in good condition by attention to every detail of his management. See that stable is clean and well ventilated, that water is soft and always given before rather than after meals, that hay and other food are of first-class quality and that exercise is given daily when there is no work to be done. As a general tonic give a tablespoonful twice daily of a mixture of equal parts of dried sulphate of iron, saltpetre, ground ginger and gentian roots and one-quarter part powdered nux vomica. Bandage legs with derby bandage when he comes in from work. If he has a long, coarse coat of hair have him clipped and if oats pass whole in manure have teeth attended to by a veterinary dentist. Put a lump of rock salt in manger to lick at will.

Fails to Breed.—What do you suppose might be the matter with my Jersey cow? She is six years old; has had her fourth calf; she is in splendid order, but cannot get her with calf. She was fresh the 9th of last August, and we have had her away once a month since. MARY S. SHEPLER.
Big Run, Pa.

There is doubtless an obstacle to breeding which could be removed by operation. In some cases there is a closure of the mouth of the womb which has to be opened before conception can take place. It is unlikely that home treatment will avail so that a veterinarian should be called in.

Spavin.—I have a mare mule that seems lame in her right hind hip; after standing for a while she seems to limp very much, but after traveling for a while she don't seem to limp so badly; of a morning when taken from the stable she limps very badly and after moving around she seems to get better. R. H. HIGHSMITH.
Bland, N. C.

You are wrong in your diagnosis, as you describe a plain case of bone spavin of the hock joint, which will have to be fired and blistered by a veterinarian after which horse should stand tied up in a narrow stall for at least six weeks. To make this plain have horse led out to halter. Pick up hind foot of affected leg and hold it close up to belly for two or three minutes. Then drop it and instantly have horse trotted forward. If a spavin is the cause of lameness horse will now be very lame for a few rods or blocks. In spavin lameness toe of shoe is worn off.

Blind Teat.—I have a 2-year-old heifer just fresh; one front teat seems to have no milk in it and is just as soft as though one had just stripped it dry. Udder above seems somewhat full, but is not caked as yet (12 hours after calving). Further than that her teat feels the least bit "stringy" high up, but no soreness whatever is present. I can give no further symptoms at present.
Casper, Wyo. WM. MOSTELLER.

We think it unnecessary to test with tuberculin in this case. It would be well to procure a milking tube and pass it into teat when it is quite possible that milk will run freely and after several days of this treatment teat may be milked in usual way. If not then it may be necessary to slit the inside of the end of the teat in four different directions to make milking easy. In such cases it is well to keep down inflammation by fomenting with hot water two or three times daily and then rubbing the udder with a lotion composed of one ounce of fluid extract of belladonna leaves, two ounces of fluid extract of poke root and five ounces of soap liniment; shake. If there is any inflammation then give internally a one-pound dose of epsom salts and follow with two drachms of saltpetre two or three times daily in water, until udder softens. The milking tube can be ordered of any maker of veterinary instruments.

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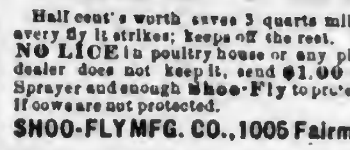

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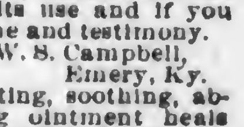

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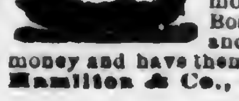

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Good Sweet Corn. — Mr J. E. Morse says in the Rural that Sheffield Sugar is the best early sweet corn he has grown. "It stands early planting, and is also a good medium early by planting in succession. In flavor, I do not consider it superior to the Cory strains, but these are so tainted with smut that I avoid them." I have planted this Sheffield for several years, and the seed was obtained directly from Mr. Burpee, whose descriptions of it had tempted me to repeat the trial even after the first year's experiment with it was so very unsatisfactory. I find this Sheffield a good grower in stalks, but shy to ear, the ear being small, only medium in season, and of very inferior quality. I have finally discarded it, and would stick to the Cory with all its faults, its dwarf growth and its tendency to smut. In regard to late varieties, Mr. Morse says: "I could never go into ecstacies over Stowells' Evergreen as to table qualities. It has a high reputation and sells on sight, but for our own table we much prefer Country Gentleman or the old Shoe Peg, so we eat these latter sorts and market the former." The Shoe Peg corn is very good, no doubt. But I have had Evergreen that was pretty nearly as good, and highly enjoyable. Much depends, too, on the soil in which it is grown, and on the temperature. Grow sweet corn on warm, sandy loam, and in a hot summer, and you will more likely go into ecstacies over the real goodness of sweet corn.

Dandelion as a Money Crop.—Possibly dandelion is not one of the great staple money crops, and yet it is coming more and more to the front as a garden crop for moderate profit. Mr. G. A. Drew (Mass. Agricultural College) says: "It seems to the writer that the possibilities of dandelion as a commercial crop have never been fully set forth. Its ability to thrive without any attention or care has left the impression that any market demand that might exist could readily be supplied by simply gathering from the open fields. It is true that some market gardeners who devote acres to spinach have a small space for dandelions to catch the early spring demand for 'greens' until spinach can be supplied. But few fully realize that the dandelion can stand on its merits alone, that besides being the earliest, it is the most healthful and profitable of all. The demand exists not only until other 'greens' can be supplied, but even until late in the season; and in places where a trade has been once worked up, it has enormously increased." Mr. Drew gives the following cultural directions: "In the first place, the seed has only a short period of longevity and one should always be careful to get seed strictly fresh. It is generally sown in the spring in rows about a foot apart and the plants thinned eight to ten inches apart in the row. This latter precaution is not necessary, but the advantage is apparent in the handsomer appearance of the product and reduced labor—preparing it for the market the following spring. If the land is in good heart and an abundance of plant food supplied with the previous crop, frequent and thorough stirring of the ground will be all that is required. The leaves are often attacked by mildew in the fall and die down, but as a new lot of leaves must start out in the spring, this does not seem to weaken the plant greatly. A winter mulch of strawy manure has often been observed to be of great advantage in protecting the bed and in hastening the crop on faster when the mulch was removed. In harvesting, one should be careful to cut just deep enough below the crown so that the plant will hold together, yet not leave too long a root attached, as this gives it an unattractive appearance. A little extra care when washing to remove all of the soil and decaying leaves is labor well spent. This is the method generally followed, but the long period from sowing to harvesting makes it an expensive crop to raise on high-priced land. Instead of an entire season crop, can it be grown as a succession crop, and if so, how can the seed be sown? The writer has experimented in this direction for several years and formed conclusions about as follows: Select a soil rich in humus but rather light in texture for one portion of the crop to mature early. For late maturing, sow on heavier soil and by different methods of handling bring on the crop as needed, taking care to harvest the crop before the blossoms become too prominent, as they produce a bitter taste objectionable to some. Wait until the current season's crop of seed can be obtained, as it is apt to have greater vitality. Sometimes sowings as late as the first of August have been very satisfactory, but as the seed is apt to start slowly during the hot, dry summer months, the 15th of July is a better date to count on. The French thick-leaved variety is more generally grown than any other, and is very satisfactory. The value of glass to bring on a portion of the crop when the price is high is worthy of attention. A cold frame can be cheaply constructed over a portion of the field and the sash simply placed thereon. A little care in ventilating and covering at night is all that is required The demand for dandelion 'greens' varies somewhat from year to year, and the profits to be obtained may vary also, but it has been the experience of the writer that there is always a good demand for a satisfactory product, and that this trade has not been fully worked up, especially in our medium-sized markets."

New Onion Culture in New Mexico.—The new onion culture has been tried with a high degree of success by the New Mexico Agricultural Experiment Station. The results are summed up by Fabian Garcia as follows (Tribune Farmer) viz.: "The results of last year's work with onions at the Station show that it was cheaper to transplant from the seedbed than to thin the onions grown in the field and transplant in the vacant spots. A plat of one-tenth of an acre was transplanted with onions grown in a cold frame. The rows were 300 feet long by 15 inches wide, with the onions 4 inches apart in the row, making 900 onions to the row, or 9,000 to the plat. The onions were irrigated immediately after transplanting. The cost of transplanting this plat of 9,000 onions amounted to $2.95. This included the cost of the first irrigation, bringing the onions from the cold frame to the field, and the dropping of them about the proper distance in the row. It was observed that better time could be made by having a man drop the onions a little in advance of the man setting them. At this rate it would cost $29.50 to transplant an acre, or 90,000 onions. The thinning and transplanting in the vacant spots of a similar plat cost $4.10. The estimated cost of thinning an acre would be $41, practically one-fourth more than in the former case. The distance to plant onions varies, but the most common one (when hand culture is practiced) seems to be from 12 to 15 inches between the rows and from 4 to 4½ in the row. Many of the authorities on onion growing give from 100,000 to 160,000 onions to the acre."

A Late Start in Onions. — I have never before tried transplanting Prizetakers and Gibraltars so late in the season. For certain reasons I had not sown my onion seed this year as early as usual in the greenhouse. In fact, had tried the plan of growing seedlings under glass without artificial heat. But as we had so little sunlight in March and April, and the soil not being just what it should have been, the plants had made very slow growth, and, in fact, were not ready to be transferred to open ground until June, and the weather conditions then being unfavorable, but small plantings were made. This will account for the fact, that I have very few onions planted out this year, and these are not larger at this writing than the Gibraltar plants started from seed directly in open ground. I am now transplanting some of the latter, merely to see what effect this will have on them and how the transplanted ones will compare with those left in the seed rows.

The Lacewing—a Friend Among Insects.—I never tire to speak a good word for our friends among insects. Most common and best known among them are the lady beetles. But there are goodly number of others, and some hardly known, or surely less appreciated than they deserve. There are, for instance, the lacewings. A writer in Indiana Farmer says about this "beautiful little friend:" "Among our many insect friends few are more attractive to the eye than the pretty fly known as lacewings, or golden eyes. Its coloring is particularly pleasing, being of delicate green shades; the beautifully veined, gauzelike wings, which are almost twice the length of its slender body, give the insect a very fragile appearance and wins for it the name by which it is best known—lacewings. The antennæ, too, are much longer than the body, and protruding from the tiny head are two bright golden eyes. In the different species the color differs slightly, but in all the eyes are of brilliant yellow or orange color. The larvæ of these insects are of great benefit to horticulturists and gardeners as insect destroyers; indeed they have such voracious appetites as to have gained for them the cognomen of aphis lions. These lions eat innumerable noxious insects and insect eggs in our gardens every year. Lady Lacewings lays her eggs on long silken pedicels, which she erects upon the chosen leaf. The reason for this peculiar arrangement is quite simple. Had Mistress Lacewings not placed her eggs on their tall silken stalks the first aphis lion that hatched would quickly have devoured all the other eggs on the leaf; as it is, the young lions as they hatch crawl down the pedicel and at once begin their search for plant lice. After they have destroyed many aphids they spin their white cocoons and come out into pretty golden eyed or lacedwinged flies. On summer evenings, when the sun is low and the dews begin to fall, we may most easily find the lacewinged flies among our flowers, or in the clover fields when they are red with their fragrant blossoms—those blossoms which so many insects love." I can only repeat the advice I have so often given, to protect our insect friends, and among them, surely, the lacewings.

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Notes from a Carolina Garden.

The only real bush lima beans we have ever grown are Henderson's and Wood's bush limas The last named is an improvement on Henderson's, and now (July 2) they are about ready to begin eating on. Dreer's Wonder bush lima, planted later, is running fully four feet long. I found the same thing with Burpee's bush lima. Perhaps they will stop running now and go to blooming, but as yet they show no signs of bloom, though claimed to be the earliest in cultivation. In the strawberry beds we are now fighting the crab grass, the great pest of Southern gardens, and the great hay crop of the Southern truck farms after the early truck crops are off. The way crab grass makes hay as good as timothy without seeding after an early and heavily fertilized truck crop would be a revelation to those who imagine that grass does not grow in the South. Two tons per acre of fine hay is a common yield after a profitable vegetable crop has been shipped North. The snap bean vines are plowed down as soon as they are ripe and the crop sent North, and the land is harrowed and left alone. The first warm shower starts the crab grass and in a little while there is a luxuriant meadow waist high, and of as good hay as is made anywhere. I have a piece of very intractible clay soil in my large garden on which I intend to sacrifice a cow pea crop for the sake of mellowing it. The peas are now about knee high, and I will let them ripen, and when the leaves are falling will sow crimson clover all among them. Then in the spring I will plow under the whole growth and believe I will have that clay in a better state for vegetable crops. At any rate I will have a lot of humus-making material there. With lima beans and tomatoes plentiful, plums ripe and peaches ditto, we are in the height of summer luxuries and in a little while the royal watermelon of the South will be ready to complete the series of good things. Woods' bush lima beans are the first to come in, while the pole beans have just bloomed. Some of the new snap beans are about ready and we will have something to say soon in regard to them. Dreer's Wonder bush limas are wonderfully strong growers and are beginning to bloom. It is fair to say they were planted some weeks later than Woods', so we can hardly compare their respective earliness.

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WM. HENRY MAULE,
1711 Filbert Street, Philadelphia, Pa.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Sweet Chestnuts.

It seems to be a mistake that more attention is not paid to the improving of our native sweet chestnut. Because of their larger size, the varieties of the Japanese and Spanish are the rage. In a nurseryman's circular, now before me, there are no less than twelve sorts of the Japanese enumerated and seven of the Spanish, with none whatever of the native one. Every one that knows anything of chestnuts is aware that the foreign sorts are hardly worth the eating. For my own part I would not eat them unless to satisfy great hunger. The circular referred to says: "Quality is of little account. I never saw a chestnut buyer taste a nut; appearance is of more account." Without question large size goes a great way, but it is not the whole thing. Witness the small sized Seckel pear, the fruit of which will outstrip in demand every large kind placed alongside it. But my point is that there is no occasion to confine oneself to the foreign ones for large size. There are often individual trees of the native one of much above the common size; and where chestnut trees are, almost every boy can take one to a tree of superior size to others. While the native one is not of as large a nut as the foreigners, it possesses a sweetness the others do not, and this, if combined with a larger nut than common, would make it very popular. If some of our nurserymen would look up some of these large kinds, graft them—which produces early fruiting—and advertise them, not forgetting to mention the sweet flavor of the nuts, they would be enriching themselves while giving to the public a something better than the tasteless European and Japanese kinds.

Taking Care of Trees.

I do not know how it may be elsewhere, but I am satisfied that in Pennsylvania not a fourth of the apple trees set out ever attain perfection. This is not observable so much in the case of orchards as in what may be called desultory planting, the setting out of a dozen or two of trees near the house, and similar cases. The one who sets out a large orchard usually has intelligence, and interest enough in the work to look after the trees. But to see the dozen or two trees stuck here and there on many farms, with no care whatever, would make one ashamed of the owner. Often the situation is that of a meadow, the grass growing around the trees; maybe a half rotten stake the only thing to keep it upright. The care which young trees must have is denied them; and in the end they die.

A fruit tree or any other tree wants attention the first few years after planting, and wants it worse than it will at any other time. It should have cultivation of the soil about it, sufficient food, and be properly staked to keep it in a straight position. If in a position where cattle or anything may strike against it, put guards about it. If the tree were worth planting they are worth the trouble to look after them for a while. There is but little use setting trees where cattle roam, anyway. The proper plan is to set them where they may grow up undisturbed. Those who wish to see what trees well attended to will do, should visit the grounds of some progressive nurseryman. There would be seen in the first place evidences of good soil, next trees wide enough apart that one is not robbing the other, then the cultivators going from spring till late summer, until weeds and tree growths are over. After seeing such trees, take a look at some young orchard on some out-of-date farm, and you will know what to do.

Popular Peaches.

Peaches do not differ from other fruits in this, that there are no favorites occupying the position they do because of years of well doing in practically all situations. When once a variety has a well established name, gained by doing well and possessing good qualities, it is rarely totally discarded. Looking over the names of the leading peaches of today one is struck with the length of time some of the sorts have been leaders. There are some that have stood as first class sorts for forty years or more. Recently on looking over a book of fruits published twenty years ago there is given a list of popular sorts, placed in the order of merit they stood in at that day; and this twenty-year-old list would need but little, if any, revision to-day. Here it is: Oldmixon, Crawford's Early, Crawford's Late, Oldmixon Cling, Heath Cling, Smock, Troth, Ward's Late, Amsden, Early York Stump and Morris White. The writer of the book referred to states that were he going to plant a dozen for profit, his list, made up of white and yellow fleshed sorts, would be as follows: White fleshed; Amsden, Early York, Moore's Favorite, Oldmixon Free, Rareripe, Stump and Ward's Late. Yellow; Crawford's Early, Yellow Rareripe, Reeve's Favorite, Crawford's Late and Smock. There is no question but that this list is a good one to-day, and that, with the addition of a few others, including Elberta, Chair's Choice and Yellow St. John, it would be considered first class. Oldmixon has held a first class position for years, as it still does in the estimation of those who know it. Nurserymen say the name of a peach or of any fruit has much to do with the selling of the trees. The names Crawford's Early, Crawford's Late, Moore's Favorite, Salway, Elberta and the like are taking, and such trees are better sellers than others, hence become more popular. Oldmixon is a good enough name, but the others just mentioned are more popular ones.

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Horticultural Notes.

Paeony Roots. — Split up such pæony roots as need it in the fall. The operation is then much more successful than if done in the spring.

Magnolias can be raised from seeds gathered when ripe, washed free of pulp and sown at once, covering the bed with forest leaves for the winter.

The Spiraea Billardi, which displays its finger-like spikes of flowers in June and later, is desirable as a thoroughly hardy shrub as well as for its great beauty.

Borers. — Early summer and late autumn are the periods to look through the orchard for borers. It takes no time at all if done twice a year systematically.

Oriental Poppies as well as poppies of all sorts, are splendid flowers for hot, dry times. They are possessed of long tap roots which find moisture, which shorter ones can't.

Fuchsias are most satisfactory plants for summer if planted or set in the shade. They won't do in the sun, though a glimpse of it through the day now and again is very well.

Daphne.—The beautiful evergreen daphne, so admired for its bright green leaves and sweet scented flowers is almost hardy, thriving in a quite cool room. It is known as Daphne Odora.

Australian Apples.—When in England a few years ago, the writer saw quantities of Australian apples in the various markets, but none of them had the size or the nice appearance of ours. Many were very small

Flowering Plants.—Among herbaceous plants good for flowering nearly all summer try Anthemis Tinctoria, Coreopsis Lanceolata and Gaillardia Compacta. It's a good trio. The two first are yellow, the third orange and crimson.

San Jose Scale does not confine its attacks to fruit trees. The common fire bush, Pyrus Japonica, it delights to attack. An infested bush should be cleaned and watched closely for awhile, to be sure the enemy has been annihilated.

Crotons are rather high priced compared with the usual run of bedding plants, but their extreme beauty is some compensation. Among them are some of brilliant diversified colors. They delight in great heat, but must have water with it. Planted out in summer they do splendidly.

Summer Blooming Roses.—If summer blooming roses can be planted where the sun does not shine on them the whole day, they flower better than when fully exposed. In autumn, when the heat is not so great and there are dews at night, they are always at their finest stage.

Planting Trees. — Why it is so many writers say plant trees a little deeper than they stood before we have never heard explained. Nurserymen, who set a hundred thousand trees a year, never do it, and why the writers referred to think it desirable remains to be explained.

Early Apple.—Purchasers at nurseries often ask for July apples, but really August is as early as we have any of any account. Red June, Early Harvest, Keswich, Astrachan, Summer Rose, Tetofsky, Transparent and Fanny are all August with us, whatever they may be further South.

Improved Chestnuts. — The efforts of many nurserymen have been directed to the obtaining of improved chestnuts of the European type. Were efforts made to obtain improved native sorts it would be much more to the point. The native is the best flavored of all, and this is the one which should be improved on.

Killing Scale Insects.—Thick soap suds will kill many scale insects applied at the time in June the young are hatched, and at other times through the season. The writer destroyed the whole of a bad brood of the apple tree bark louse in that way. It cannot be known too well that anything greasy that closes up the pores of an insect's body will kill it.

New Crab Apples. — Among new crab apples offered is the Large Red Siberian, said to be twice the size of the old sort. Another is Paul's Imperial, which is explained to be a cross between the Red Astrachan apple and a crab. The greater number of those who plant fruits want either to have a tree all apple or all crab, the uses of each being different.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Size and Number of Eggs Dependent on Food Supply.

That the supply of food given to laying hens largely influences the egg yield, may easily be ascertained by means of a little experimenting. If you keep a goodly number of hens, or more than can readily find an abundant living on free range, and you have been feeding full rations of some reliable poultry food, say whole wheat, and secured full yields of eggs, and you will all at once discontinue the full rations, and put the fowls on half rations or less, it will be but a few days, or a week, before the number of eggs produced daily will materially decrease. Then if you will go back to your old habit of full and regular feeding, the eggs will soon increase again in number. We have observed this time and time again. And so it is when we feed our regular mash with or without admixture of animal substances. Mr. O. W. Mapes tells in the Rural, how, on the suggestion that the feeding of animal meal had caused many hens to sicken and die, he consented to eliminate the animal meal entirely from the morning mash, and to rely solely on the skimmilk with which it is wetted, for animal matter. Yet about the same number of hens sickened and died. The egg-yield was not noticeably less for the first two or three weeks after which it began to fall gradually, while the size of the eggs was very noticeably less. A good many had to be sorted out because entirely too small to ship to his fancy grocery trade, and the remainder were not up to the usual standard in size. In the middle of May, when the egg yield had dropped to an alarming degree, the feeding of animal meal was resumed with the result that the egg basket soon began to fill again as, too, the eggs came back to their usual size. This experience, Mr. Mapes says, convinces him that the size of eggs, as well as the number, is at least partially under the control of the feeder. This is no doubt true, and if any reader doubts it, let him settle the matter to his own satisfaction by a few trials on the lines suggested.

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Queries Answered.

Fall Hatches. — H. T. Tucker, Skaneateles, N. Y.—"Will you tell me what there is in favor of chickens hatched in the fall? Would they be likely to be a success in Central New York hatched about Sept. 1st or the last of August in an incubator and raised in a brooder?" In a general way everything seems to be in favor of early hatches, and against late hatches of chicks. The late-hatched chick is seldom as strong and vigorous as the early-hatched one. It is not so liable to make a large fowl, simply because its season of development is short. A large proportion of the late-hatched chicks die when the cold and wet autumn weather arrives. So if we grow these late birds for their flesh, we raise undersized stock, or if for layers, we will get layers for next summer, fowls that we will have to feed all winter without getting an egg from them until eggs begin to be the very cheapest late in spring. Occasionally we have had a few late broods, going with the mother hen, all over the meadows and orchards, and doing remarkably well on nothing but a diet of grasshoppers and other insects, or other materials which they were able to pick up in the pastures, meadows, orchards, in stubble fields, etc. There may be chances to raise late hatches for killing as springers or broilers for cold storage, to be put on the market in spring following. We solicit reports from readers who may have had success in raising late chicks in incubators and brooders.

Favorable Locations for Poultry Raising.—L. B. Watros, Marathon, N. Y.—"I am a young man engaged in dairying, with poultry as a side line, and although the cows pay well I find the hens give better returns everything considered. We are 1,200 feet above sea level; winters are long, cold and snowy, while summer weather is too short and cool for corn to ripen many years. Besides this we have a greater number of cloudy days than any other part of the U. S. Owing largely or wholly to the weather conditions I have much trouble with colds and catarrh. Now what do you think of the country around Hammonton, or the section south of Philadelphia in Salem Co., as a place for me to engage in poultry with eggs as the main production, and a small dairy to have skimmilk for the hens? Also, what do you think of the Houdans as egg-makers?" Some caution is always advisable in making a change of location, simply because no one locality combines all the advantages. Hammonton, N. J., and that whole region of the State, comprising Salem, Cumberland and Atlantic counties, however, with many other localities in the South Eastern States, seem to be particularly adapted to the wants of the poultry raiser. They have the mild climate, the sunshine, the naturally drained (sandy) soil, etc., and a good market not far off. On the other hand, a person may have learned to understand poultry requirements in an apparently less favorable locality, and may be able to produce poultry and poultry products with great success, and yet fail to have the same success in a more suitable locality, simply because he has not yet learned to adapt his methods to his new surroundings. The writer, however, if he were to make poultry his main dependence, and could have the choice of location, might easily be induced to select Hammonton, or some other place in the region aforesaid, as a location for the enterprise. Where eggs are the chief object, Leghorns would probably be most profitable. Among the larger breeds, the Langshans, Wyandottes and Plymouth Rocks are perhaps in the front rank. If there is anyone among our readers who prefers the Houdans, let him tell us why he prefers them, and what are their strong points.

Raising Turkey Chicks.—Lizzie Cleveland, Orleans, Ind. — "What is the matter with my turkeys? They were all right until about two weeks old when the knee joints of two of them became enlarged, one got knock-kneed and another bow-legged. The knock-kneed one got so it could not stand up and finally died. I keep them in a perfectly dry coop until dew is off; then they run at large. I feed them dry curds and corn bread, and pure water to drink. They are of the White Holland variety. I give them broken crockery for grit." The trouble with the little turks probably arose from faulty feeding. These chicks are very sensitive in this respect, much more so than common chicks, or ducklings. An exclusive, or nearly exclusive diet of corn meal or corn bread is almost sure death to them. Common chicks will often stand a very large proportion of corn in their foods, especially when they have a large run so that they can pick up plenty of insects. Turks will endure but very little corn in their food. The cake that we have recommended for chicks, consisting of equal parts corn meal, oat meal, middlings, bran and animal meal, given in a crumbly and but slightly moistened condition, is safe also for little turkey chicks. With proper feeding and the chance to pick up insects, especially grasshoppers, etc., the little things will grow up without leg troubles.

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Pointed Poultry Paragraphs.

Gentleness and Kindness pays with fowls as with any other farm animal.

Even During Summer, we supply sharp grit to our hens, and the latter eat quantities of it. It is needed.

A Good Place for the poultry manure is the manure heap in the covered yard. We try to clean our hen house weekly, and always mix the accumulations with the horse and cattle manure.

Alsike Clover, or second crop common clover is just the thing we like for use as part winter feed for fowls. Should be cut early, just when in bloom, and cured nicely, if possible in part shade.

A Lover of Birds will find squab raising interesting and profitable. The cost of keeping a pair of pigeons, besides nursing their young, is estimated at about 35 cents per year. With good management ten or eleven pairs of squabs may be raised per pair of breeders per annum.

The Pullets.—We never sell an early-hatched pullet at any price. A dollar apiece would be no temptation for us. Why? Because we get more profit from them in the eggs they will soon begin to shell out, and at a time when eggs bring a good price. We would rather buy pullets than sell them.

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PROF. W. F. MASSEY, Editor.

Philadelphia, July 25, 1903

We have received the Annual Report of the Pennsylvania State College and Experiment Station, filled as usual with a great mass of valuable matter, much of which we expect to bring to the attention of our readers in the future. The volume should be in the hands of every farmer student in Pennsylvania.

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Down in North Carolina there is this summer a great summer school for the teachers in the public schools, and it is gratifying to know that about two hundred of them, mainly young women, are taking the course in Agriculture, Biology and Nature study. When these two hundred teachers go back to their schools next fall they will go with new ideas in regard to agriculture, and a start will be made in the teaching at least in 200 schools. As this summer school for teachers is intended to be a permanent thing at the North Carolina College of Agriculture, it is evident that in the future that College is going to get students in agriculture better prepared at the start, and hence better fitted in the end.

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Post Office Frauds.

One of our exchanges is disposed to congratulate the public on the fact that the officials in the Post Office Department have not stolen the stamps off the letters yet. We cannot help thinking, however, that a year or more ago, when the authorities placed by the people in charge of the great mail system of the country were so busy in shutting out useful annuals and quarterlies from the mails which were doing good in the education of the people, would have been better employed in saving the Government money that was being stolen than in saving a little expense that was doing good to all the people. What the sending of this matter cost was a mere trifle compared with what dishonest officials were lining their pockets with.

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Making Vinegar.

In connection with the discussion of vinegar and cider making we would call attention to the following from the Pennsylvania State College Experiment Station Annual Report: "It is customary with some farmers to add fresh apple juice directly to old vinegar stock, in hope of securing thus a more rapid conversion of the product into vinegar. This is a practice which cannot be too strongly condemned. The sugar of the juice must first undergo an alcoholic fermentation, before the acetic fermentation can begin. By adding apple juice to old vinegar the alcoholic fermentation may not only be checked but even absolutely prevented, and the writer knows of instances where such mixtures have lain for years without fermenting. The alcoholic fermentation proceeds best in the presence of a minimum amount of acetic acid A percentage of 0.5 per cent. acetic acid will retard the alcoholic fermentation considerably. * * In the light of this the folly of attempting to hasten the manufacture of vinegar by mixing fresh juice with old stock is apparent." We quote this merely to show that while the adding of old vinegar will hasten the making of vinegar it is essential that the cider first go through the fermentation which changes sugar into alcohol. When this has been accomplished, the acetic or secondary fermentation will be helped by the addition of the old vinegar. But even for vinegar it is important to use clean casks and not old musty ones in which various wild ferments will be found. Those who would like to have a full discussion of cider and vinegar should write to the Pennsylvania Experiment Station for their bulletin on the subject.

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Luther Burbank.

We have been favored by the Southern Pacific Railroad with a beautifully illustrated pamphlet entitled, "Luther Burbank," an appreciation, by Professor E. J. Wickson of the University of California. The pamphlet is adorned with a full-page portrait of Mr. Burbank and a series of half tone illustrations of his cottage and grounds and the products of his skill as a hybridizer. No horticulturist has ever nearly approached Mr. Burbank in the great results he has attained by the hybridization of various plants and the improvement of cultivated fruits and flowers. His work shows what great things can be done by a man intensely in earnest, in love with his work and a student of nature. The world owes him a debt of gratitude, not only for the products of his skill, but for teaching us the practicability of hybridizing plants that heretofore defied the art of the plant crosser. The book is the story of an earnest, plain and sincere man, a lover of nature and an indefatigable student of her mysteries. We suppose that the book can be had on application to the Company at San Francisco, Cal. It merits the study of young horticulturists especially.

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The Shoddy Bill.

We have received a circular from the Secretary of the National Live Stock Association urging our support of the bill introduced in Congress on behalf of this Association, requiring the branding of all goods made from shoddy and all garments manufactured from such goods. We have no objection to such a bill becoming a law, but fear that it would be just as hard to enforce it as it was to enforce the branding of oleomargarine. Nor can we fail to remember that the president, secretary and a majority of the members of the National Live Stock Association vigorously opposed the enactment of the law to prevent the fraudulent coloring of oleo in imitation of butter by taxing the coloring. If the shoddy bill is a good one to enact into law, the oleo law is equally good. But the National Live Stock Association was under the complete control of the oleo interest in Chicago, which impressed upon the Western stockmen the notion that the oleo law would reduce the selling value of their cattle, a result which the passage of the law has shown to be erroneous, for the stockmen have not been injured in the slightest degree. In fact, as the Secretary of Agriculture said to us at the Chicago meeting of the Association, the amount of tallow used in oleo would not then amount to 20 cents per head of cattle sold. We would have more interest in the bill which the Association wants passed for the benefit of the sheep men of the Western ranges if the Association had had some regard for the interests of the Eastern dairymen. We hope the shoddy bill will pass, but do not expect much effect from it on the shoddy trade. One of the pet arguments against the oleo law was that it was the poor man's butter. The same argument might be used against the shoddy bill, for the shoddy goods form the chief clothing of a large part of the people who have to buy low-priced clothing, and if a man gets a comfortable coat made of shoddy it matters very little to him that it is not made of new wool, for which he would have to pay a higher price, and we doubt if the passage of the bill would help the wool grower a cent. Still we are in favor of selling everything for just what it is, oleo included.

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Teaching the Indians.

Among the various school closing exercises was one of a most unique character, which attracted little notice. Hidden away down in the North Carolina mountains few know that there is an Indian reservation of over one hundred thousand acres, where nearly 2,000 of the remnants of the Cherokees still live. On this reservation the general Government supports a school for the Cherokee children, and the Indian children have a far better opportunity for education than many of the mountain white people around them. The school is in a picturesque spot among the hills by the pretty little river called the Oconolufty or, as the Cherokees say, Aquonulty. There were 143 pupils in the school during the session, and they are not only educated in the commodious buildings, but are trained in various useful occupations, and the school is making them useful citizens. The list of pupils contains some curious names, such as Jess Ropetwister, Loggie Swannook, Cain Screamer, Cally Smaner, Sarah Squirrel, Jim Cucumber, Jim Mumblehead, etc. But a rose by any other name is just as sweet, and the Indian lads and lassies are said to be bright and studious and play like any other children at their games. We wish that the white people of the mountain country around them had as good an opportunity for education and training.

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School Libraries.

With the growing interest in agricultural instruction in the rural schools and in the efforts to establish school libraries in these schools, there is still too little regard to the class of books the libraries shall contain. The school library should be very largely a reference library, an aid to teacher and pupils in all the studies prosecuted, and if agriculture is one of these studies, the library should contain the best reference books on agricultural and horticultural topics, and there is no place where the farm papers would be better appreciated than in the rural school. Files of the papers in the country schools would lead to a more extensive clientage for the papers, for the boys and girls who get into the habit of reading them at the school house will want to have them in their homes as they grow up. Then, too, the education in elementary agriculture would be immensely aided by the reference books and the farm papers, and the boy going from such a school into the College of Agriculture will be far better grounded in the elements of his profession than if he had not had these advantages. Many of the children, nay most of them in some sections, come from homes where there are no books nor farm papers, and this is one of the strongest reasons for their being in every rural school house. The great difficulty in introducing agricultural studies in the common schools of the country is the lack of training in these studies on the part of the teacher. The farm papers at hand in the school library, and kept on file there would go a long way towards remedying this defect.

The Cream of the Bulletins.

Tree planting on Rural School Grounds. U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 134. By W. L. Hall, Assistant Superintendent of Tree Planting, Bureau of Forestry.

While city school grounds are generally too small for much planting, there is not the same excuse in the rural districts, and too often the houses in the country are set in bare fields, unrelieved by a tree or shrub either for comfort or beauty. In some of the smaller towns and villages there are examples of very pretty planting, but in the country an improved school lot is rare. Sometimes they may be set in a natural forest, where the trees are too thick to allow of any further improvement in the grounds, but more commonly the most bare and unattractive spot in the whole neighborhood is the school house lot. This condition is not due to lack of means, for in wealthy sections the same lack of care is apparent as in the most secluded neighborhoods. In fact, the latter are apt to have more trees about them, while in the thickly settled and more wealthy sections the barest and most worthless spot is commonly set apart for the district school house. In sections where the homes of the people are attractively planted and cared for we find the same neglect of the school house lot, showing that it is not a lack of appreciation of beauty, nor a lack of interest in the school itself, but rather to a failure to see the importance of educating the young to an appreciation of comfortable and beautiful surroundings. Some imagine that it is useless to try to embellish the school grounds, as the boys will destroy the plantings, but wherever a real effort has been made in this line and the children taught the value of the decoration and care of the premises it is easy to awaken a pride in the school lot among the young. With an awakened idea of beauty in natural things the children will be helpful rather than destructive, and will of themselves check the rude tendencies of some. The protection and comfort of the teacher and pupils is one of the strongest reasons for planting the grounds. Shelter from winter blasts and early summer heat is very desirable. Trees have an educational value, for the children engaged in the planting get valuable lessons in regard to plant life. The proper treatment of the soil, and the handling of the trees and shrubs cannot fail to be useful to them in after life. Then, too, if the grounds are pleasant and attractive they will exert a great influence in making school and its duties attractive. In many States Arbor Day has been established by law, and making the children take part in the ceremonies has a great effect on them. What is needed, in the first place, is a teacher who has a true idea of natural beauty and the way to secure it in planting. Then the school authorities of the district must be interested, and proper plans prepared before any planting is done. Then, having a proper plan, it should be adhered to, though it may not suit some. What planting to do, is the subject of a chapter. The plantation must be made to suit the locality and the soil. Where the lot is small, a group of trees or shrubs placed where they will look well or hide some disagreeable feature will do. But in the country there is commonly an acre or two around the house that can be utilized. Trees should be mainly on the outskirts of the lot, leaving the centre for grass and shrubbery. A thick belt in the rear is desirable to hide the outbuildings needed. The bulletin gives several illustrations, showing desirable and undesirable planting. A chapter is devoted to the kinds of trees to plant. This will be largely governed by the climate and soil of the locality. Quick growing, but short-lived trees may be used temporarily until better ones are grown, provided the quick-growing trees are cut out before they spoil the shape of the permanent ones. Many of the best trees can be found in the forests of any section, and if small ones are taken up they will usually succeed. In case the whole county gets interested in the planting, a nursery can be established on a small scale to furnish the young trees. An important chapter is the one devoted to the preparation of the soil and the time and manner of planting trees. South of the 37th parallel the fall is the time to plant, and from North Carolina south any time up to Christmas. But in the North the spring is the general planting time. It is well stated that those who do no watering of trees in transplanting are generally the most successful. Moderately dry earth, rammed inch by inch as the earth is filled in is far better than pouring water in the hole to settle the soil, which then settles further and opens cracks to let in the air. Various reasons are given for trees failing to live. The bulletin concludes with some studies for teacher and pupil, giving illustrations of seeds and shoots, and then telling of the life processes in trees.

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CONTENTS

AGRICULTURAL.—Keeping Cows and Pigs and Buying Grain.—Alfalfa Questions from New York.—Health Hints.—Breathing. 49
Lima Beans and Manure.—Intensive Farming. 50
QUERIES.—Grass for Pasture. — Silo Construction.—Farming in Mo. 50
Mustard and Lettuce.—Box Drains.—Orchard Grass.—Velvet Grass.—Cultivating Cotton. 51
LIVE STOCK AND DAIRY. — Soy Beans.—Raising Calves. 52
VETERINARY.—Fistula of Milk Duct. 52
Joint Disease. — Urticaria. — Cow Pox. — Worms. — Spavins. — Pasturing Oats.—Stocked Legs.—Fails to Breed.—Spavin.—Blind Teat. 53
GARDEN.—Talks on Timely Topics.—Good Sweet Corn.—Dandelion as a Money Crop.—New Onion Culture in New Mexico.—A Late Start in Onions.—The Lacewing—a Friend Among Insects.—Notes from a Carolina Garden. 54
HORTICULTURAL.—Sweet Chestnuts.—Taking Care of Trees.—Popular Peaches.—Horticultural Notes. 55
POULTRY.—Size and Number of Eggs Dependent on Food Supply.—Queries Answered. — Fall Hatches.—Favorable Locations for Poultry Raising.—Raising Turkey Chicks.—Pointed Poultry Paragraphs. 55
EDITORIAL. — Post Office Frauds.—Making Vinegar.—Luther Burbank.—The Shoddy Bill.—Teaching the Indians.—School Libraries. 56
CREAM OF THE BULLETINS. 56
COMMERCIAL. 57
HOME CIRCLE.—Prize Offer. — Editorial Chat. — All in a Lifetime, Part 3. 58
In the Kitchen.—Among the Flowers. — Why They Failed. — Correspondence.—Youth's Parliament. 59
OUR EXPERIENCE POOL.—Topic No. 582.—How to Make Cider and Cider Vinegar, and How do You Keep Cider Sweet? 60
SHORT CUTS BY P. F. SUBS.—Hot Weather Hints for Washing and Ironing.—A Handy Saw Horse.—Harrowing Land Infested with Quack Grass.—Camphorated Oil.—Short Cut Gate.—How I Clean Lard Vessels.—Use for Shoe String.—Raising Bread in Stove Oven.—Turnip Kraut.—Disposal of Slops in Kitchen.—Washing Berries.—Brush for Whitewashing.—Porcelain Can Tops.—Drainage.—A Novel Dusting Cloth.—Emergency Box. 61
MISTAKES, FAILURES AND SUCCESSES.—Destruction of Birds.—Culture of Potato Onions.—Lamp Chimneys Breaking. — Watering Trough.— Raising Turkeys.— Slick Up on the Farm.—Twelve Acres of Melons.—Setting Hens and Caring for Chicks. — Mistake in Melon Growing. 62
POSTAL CARD CORRESPONDENCE. 64

We are proud of our Veterinary Department. Take the 26 numbers which make up a volume, or the 52 which are printed in the year, and they constitute an encyclopedia on the treatment and care of live stock. And this leads us to say that those of our subscribers who do not preserve the numbers of the P. F. miss a dood deal of the value which they might otherwise derive from it. Very often veterinary advice might be found in the back numbers of the previous six months which would just fit into an emergency case, for which a prompt remedy is required. And it would save needless repetition of queries and answers for common cases, which sometimes fills that department to an unnecessary degree. Friends, save and consult the back numbers.

COMMERCIAL

Philadelphia, July 18, 1903.

WHEAT.—			
No. 2, red, spot and July	80¼	@	80½
No. 2, old, Penna. and Del.	81¼	@	81½
CORN.—			
No. 2	55	@	55½
No. 2, yellow, track	58½		
No. 3	51	@	51½
OATS.—			
No. 2, white clipped	45		
No. 2, white natural	44	@	44½

LIVE POULTRY.—

Arrivals of fowls and chickens were small and the market ruled firm, with a fair demand. Ducks were quiet and steady, with moderate offerings.

Fowls, hens, per lb.	14		
Roosters, per lb.	9½	@	10
Spring chickens, per lb.	16	@	19
Spring ducks, per lb.	12	@	13
Old ducks, per lb.	11	@	12

DRESSED POULTRY.—

There was a quick outlet for choice stock, prices of which ruled firm under light offerings. Receipts were largely of unattractive stock, which was dull and weak.

Fresh killed fowls, choice	13½		
do do do average	12	@	13
do do old roosters	10		
do do broilers, nearby	20	@	22
do do do Western	18	@	20
do do do average	14	@	16
BUTTER.—			
West, creamery, 1st to extra	19	@	21
Ladle packed	15	@	17
Prints, nearby, 1st to extras	20	@	23
Prints, West. do do	18	@	22
EGGS.—			
QUOTATIONS AT MARK.			
Nearby fresh, ret'bl crates	17		
Western, choice, free case	17		
So. Western do do	16		
So. choice do do	15	@	15½

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 1,362 boxes. With weaker country advices and liberal supplies prices were a shade easier. Buyers were operating cautiously.

N. Y., f. c. small—			
New, choice	10¼	@	10½
Fair to good	9½	@	10
State, part skims, prime	6	@	8
GREEN FRUITS.—			
Raspberries, red, pt.	4	@	6
Gooseberries, per qt.	6	@	8
Blackberries, per qt.	6	@	9
Currants, N. Y., qt.	8	@	10
Peaches, Ga., carrier	1.50	@	2.00
Plums, Ga., 6-bas. carrier	1.00	@	1.50
Watermelons, Fla., car	200.00	@	275.00
Canteloupes, Fla., per crate	75	@	1.00
Ga. & N. C., per crate	1.25	@	2.25
Pineapples, Fla., crate	2.00	@	3.25
Whortleberries, per qt.	5	@	8
APPLES AND PEARS.—			
Apples—			
Del. & Md., new, ½-bbl. bas.	50	@	75
do do do per bbl.	1.00	@	1.50
Pears, LeConte, Ga., per bbl.	1.50	@	3.00
POTATOES.—			
White, So. Rose, pr., bbl.	2.00	@	2.25
do do do md., bbl.	1.50	@	1.75
do do Chili, No. 1, bbl.	1.75	@	2.00
do Jersey, per bas.	45	@	55
Red So. Chili, No. 1, per bbl.	1.75	@	2.00
do do do md., per bbl.	1.25	@	1.50
Sweets, So., pr., yellow, bbl.	6.00	@	6.50
do do red do	5.00	@	6.00
BEANS AND PEAS.—			
Beans, marrows, H. P., bu.	2.60	@	2.65
Pea beans, H. P., 1902, bu.	2.35		
Red kidney, 1902, bu.	2.90	@	3.00
Green peas, per bu.	1.60		
Scotch peas, per bu.	1.65		
COTTON.—			
Cotton, per cwt.	12.20		
FEED.—			
Bran, bulk, winter, per ton	17.50	@	18.00
Bran, sacked, spring	17.50	@	18.00
HAY AND STRAW.—			
Timothy, N. Pa., No. 1, l'g	20.50	@	21.00
do Western	20.00	@	20.50
Timothy, mixed Western	14.50	@	17.50
Straw, straight rye	18.50	@	20.00
Oat	10.00	@	11.00
Wheat	10.50	@	12.50

PHILA. LIVE STOCK MARKET.

(Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4½	@	4¾
Common steers	4	@	4¼

CALVES.—

Veal calves about steady.

Extra calves	6½	@	7
Fair to good	5	@	6
Poor and common	4	@	4½
Grassers	3	@	4

HOGS.—

Hogs slow and lower.

Fat hogs, Pa., Del.	6½	@	7½
Fat hogs, Western	8	@	8¼

SHEEP.—

Sheep and lambs steady for best grades.

Sheep, extra	4½	@	4¾
Sheep, good	3¾	@	4¼
Sheep, medium	3	@	3½
Sheep, common	1½	@	2½
Lambs, spring	4½	@	6¾

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The New York Market Review.

The dairy market has been nearly normal for the past week, and both receipts and consumption hold a steady relationship which keeps prices satisfactory. There have been indications of slight shrinkages in the producing centres in some sections, but not large enough to cause trouble. Speculators are quite free buyers, and the goods are going into cold storage whenever quality is satisfactory. The preference is, of course, always given to the fanciest goods. Small shipments are at a disadvantage on account of the ice required to keep them in good condition until arrival. Butter ranges from 13 to 20½c. per lb. In cheese exporters are taking very little as Canadian ports are offering goods relatively cheaper than here. A good deal of the cheese that has lately arrived has had to go into cold storage, but there is no indication of any cutting in prices. Quality of cheese holds up well, which gives to it a permanent value throughout. The market for grain has been irregular as the crop reports and the speculators easily manipulate prices either way. Foreign buyers have been more energetic than home dealers, and at every decline they take both wheat and corn. At present weather is very favorable, and in spite of this prices hold firm, although New York has been relatively the weakest market in the country. Corn has undoubtedly improved greatly, and the continued good reports of the crop have tended to cause pretty general liquidation. Receipts are temporarily light at present, but country offerings are liberal, and there is evidence of larger movements in the interior in the near future. Oats are also weak and dragging, with commission houses the chief buyers. Barley and rye are both quiet.

Last week condition of poultry arriving was very poor, owing to the hot weather and delay of stock in transportation. Great quantities were condemned by the health board, and this loss removed from the market most of the surplus. As a result there has been a better condition this week. Consumption has also increased a little with the return of cooler weather. There is an actual scarcity of prime stock, and choice chickens and fowls frequently bring a premium. Spring ducks, geese, and turkeys have also a ready market, but low grades have really no demand. Tame squabs are steady and in demand. Outside prices are not only steady, but sometimes exceeded. Nearly the same conditions prevail in regard to eggs. There is a growing scarcity of fancy stock, and their small proportion makes prices for them steady. A good many of the receipts are heated, and the eggs are practically spoiled for the general trade.

Demand for dried beans is not large, but the small quantity of stock offered has given holders confidence. Exporters have taken a few domestic marrows and medium red kidneys. Yellow beans are very scarce. There has been a slight decline in hay owing to the lessening of the demand. But supplies are not large, and consumption is larger than usual at this season of the year. Prime declined to $1.20 per 100 lbs., and from this down to 75c. represents the range for all desirable hay. Good to choice long rye straw holds steady at 90c. and $1 per 100 lbs.

New potatoes have been in large receipt the past week, and most of the stock has been in poor condition. Prices have been irregular but they are steady for all desirable grades. Onions are in liberal supply, and so dull that they favor buyers on all grades. Other vegetables have seasonable prices, but supplies are mostly liberal. There has been further weakness noted in hops, with crop prospects improving on both coasts, and country advices weak. Spot cotton in the local market is quiet, but futures continue to act very irregularly, causing manufacturers to move cautiously in buying. At present prices they claim it is impossible to make cloth with cotton, for they cannot sell their print goods at correspondingly high quotations. Sales abroad and at home are consequently very uncertain, and speculators manipulate the market to suit themselves. G. E. W.

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New York, July 18, 1903.

WHEAT.—			
No. 2, red	86½		
No. 1, No. Duluth	92¾		
CORN.—			
No. 2	57½		
No. 2, f. o. b.	58¼		
No. 2, white, f. o. b.	58½		
No. 2 yellow, f. o. b.	58½		
OATS.—			
Standard, white	44		
No. 2, white	44¼		
No. 2, white clipped	44¾		
No. 2, mixed	41½		
No. 2, mixed clipped	42		
No. 3, mixed	41		
No. 3, white clipped	44		
No. 3, white	43¾		
HAY AND STRAW.—			
Timothy, large bales, cwt.	1.25		
No. 1	1.15	@	1.20
No. 2	95	@	1.00
Clover, per cwt.	70	@	82½
Straw, long rye, per cwt.	90	@	1.00
BUTTER.—			
Creamery—			
Firsts to extras	19	@	20½
Ordinary	15½	@	18½
State dairy, fresh, tubs—			
Firsts to extras	18	@	20
Ordinary	14	@	17
West. Imitation Creamery—			
Finest	18		
Ordinary	16½	@	17½
Packing stock—			
No. 1 solid packed	15		
No. 2 and 3 solid packed	13	@	14½
CHEESE.—			
State, f. c., small, extra	10		
Fair to prime	8¼	@	9¾
Large colored, extra	10		
Large white, choice	10		
State, light skims—			
Choice	8¼		
Part skims, prime	6½		
Full skims	1½	@	2
EGGS.—			
QUOTATIONS AT MARK.			
State, Pa., and nearby—			
Fancy selected white	19	@	19½
Fresh gathered, extras	18½		
Fresh gath'd, 2nds to 1sts	15½	@	17
Western—			
Fresh gath., 1st to extras	16	@	18½
Dirties, fresh gath., No. 1	13½		
LIVE POULTRY.—			
Spring chickens, nearby, lb.	16		
Western, per lb.	16		
Southern, per lb.	15		
Fowls, per lb.	13½		
Roosters, per lb.	8		
Turkeys, per lb.	11		
Ducks, average, pair	60	@	90
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	25		
Live pigeons, young, pair	20		
DRESSED POULTRY.—			
FRESH KILLED—ICED.			
Turkeys—			
Average best, per lb.	13	@	15
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	25	@	26
State & Penna., 3 to 4 lbs. to pair, per lb.	21	@	22
Western, d. p., per lb.	13	@	17
do scalded	13	@	16
Southern, scalded, sm., lb.	10	@	13
Fowls, West., scald., sm., fcy	12		
Dry picked, small, fancy	12		
Southern & So. West., d.p.	12	@	12½
do scalded, per lb.	10	@	12
Spring ducks—			
Long Island, per lb.	17½		
Eastern, per lb.	17½		
Jersey, Pa. & Va., per lb.	17		
Western, per lb.	10	@	13
Squabs—			
Prime, large, white, doz.	2.50	@	2.75
Mixed, per doz.	2.25		
Dark, per doz.	1.50		
Spring geese, Eastern, lb.	20		
FROZEN.			
Turkeys—			
Young hens & toms, No. 1	17	@	19
Broilers, d. p., No. 1	19	@	21
Broilers, scalded, No. 1	16	@	18
Capons, choice, heavy	21	@	22
Medium size	19	@	20
APPLES AND PEARS.—			
Apples—			
Jersey, bbl.	1.25	@	2.25
Southern, bbl.	1.25	@	2.25
Small, basket	30	@	60
Bushel crates	60	@	1.00
Pears—			
LeConte, fancy, bbl.	3.50	@	4.00
Choice, bbl.	1.75	@	3.00
GREEN FRUITS.—			
Pineapples—			
Indian Rivers, 24s	2.60	@	3.00
Indian Rivers, 30s	2.50	@	2.80
Indian Rivers, 36s	2.25	@	2.50
Smooth cayenne, per crate	6.00	@	6.50
Muskmelons—			
So., crates, large, selected	3.00	@	4.00
Choice	1.50	@	2.50
California, crate	6.00	@	8.00
Watermelons, per 100	15.00	@	30.00
Per car	175.00	@	300.00
Peaches—			
Georgia, average, carrier	1.00	@	1.25
Elbertas, carrier	1.25	@	1.75
Belles, carrier	1.25	@	1.75
Mt. Rose, carrier	75	@	1.25
Blackberries, N. J., per qt.	7	@	11
Huckleberries, large blue, qt.	10	@	12
Small, per qt.	7	@	9
Gooseberries, per qt.	5	@	7
Raspberries—			
Jersey, per pint	4½	@	6½
Up-river, per pint	5	@	7
Currants, per qt.	7	@	10
Cherries, red, sour, per bas.	55	@	60
Black, sour, per bas.	55	@	60
VEGETABLES.—			
Cabbage, Baltimore, per bbl.	1.00	@	1.50
Long Island, per bbl.	5.00	@	7.00
Flat Dutch, per 100	1.25		
Cucumbers—			
Baltimore, per bas.	30	@	40
Jersey, bu. box	50	@	75
Norfolk, bbl.	75	@	1.25
Cauliflower, per bbl	1.50	@	1.75
Eggplants, per box	1.25	@	2.00
Green corn, per 100	1.00	@	1.50
Lettuce, nearby, per bbl.	1.75	@	2.75
Okra, carrier	1.50	@	2.00
Peas, Western N. Y., bas.	75	@	1.00
Long Island & N. J., bag.	50	@	75
Peppers, Jersey, box	1.50	@	2.25
Southern, carrier	1.00	@	1.75
String beans—			
Nearby, ½-bbl. basket	15	@	50
Wax	15	@	50
Squash, So., white, bbl. cr't	50	@	75
Marrow bbl. crate	1.00	@	1.25
Turnips, white, 100 bun.	1.00	@	1.50
Russia turnips, bbl.	1.00	@	1.25
Onions—			
Yellow, basket	60	@	75
White, basket	75	@	1.00
Texas Bermuda, crate	1.00	@	1.60
Kentucky, bbl.	2.15	@	2.25
Bags	1.12½		
Tomatoes—			
Texas, trays	40	@	50
Jersey, per box	75	@	90
Norfolk, per carrier	30	@	50
Jersey, Acme, box	1.00	@	1.50
Tennessee, trays	50	@	65
POTATOES.—			
Long Island, prime, per bbl.	2.00	@	2.50
So. Rose & Hebron, No. 1, bbl	1.50	@	2.50
Chilis, No. 1, per bbl.	1.50	@	2.25
Seconds, per bbl.	1.00	@	1.25
Culls, per bbl.	75	@	1.00
Sweets, Southern, bbl.	3.00	@	5.00
Jersey, old, per basket	75	@	1.50
Yams, Southern, per bbl.	3.00	@	3.50

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@33
X	28@30
Medium	30@32
Quarter blood	28@30
Common	26@28
UNWASHED (light and bright.)	
Fine	20@23
Medium	23@24
Quarter blood	23@24
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@18
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	33@35
Washed medium	32@33
Washed low	30@32
Washed coarse	28@30
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	21@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest—something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

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Editorial Chat.

An exchange has, among other things, this to say about boys: "A boy is a man in the cocoon—you do not know what it is to become—his life is big with possibilities. Distinctly and vividly I remember a squat, freckled boy who was born in the 'Patch,' and used to pick up coal along railroad tracks in Buffalo. A few months ago I had a motion to make before the Court of Appeals at Rochester. That boy from the 'Patch' was the judge who wrote the opinion granting my petition. Be patient with the boys. You are dealing with soul stuff. Destiny waits just around the corner."

* * * * * * * *

And here is something else, too good to let pass, from the pen of Sam Foss.

THE CALF PATH.

SAM FOSS.

One day through the primeval wood,
A calf walked home as good calves should.

But made a trail all bent askew,
A crooked trail as all calves do.

Since then two hundred years have fled,
And, I infer, the calf is dead.

But still he left behind his trail
And hereby hangs my mortal tale.

The trail was taken up next day
By a lone dog that passed that way.

And then a wise bell-wether sheep
Pursued the trail o'er vale and steep.

And drew the flock behind him, too,
As good bell wethers always do.

And from that day, o'er hill and glade,
Through those old woods a path was made.

And many men wound in and out
And dodged and turned and bent about.

And uttered words of righteous wrath
Because 'twas such a crooked path.

And still they followed, do not laugh,
The first migrations of that calf.

This first path became a lane
That bent and turned and turned again.

This crooked lane became a road
Where many a poor horse with his load

Toiled on beneath the burning sun
And traveled some three miles in one.

And thus a century and a half
They trod the first steps of that calf.

The years passed on in swiftness fleet,
The road became a village street.

And this before men were aware
A city's crowded thoroughfare.

And men two centuries and a half
Trod in the footsteps of that calf.

And o'er this crooked journey went
The traffic of a continent.

There is something in these lines besides mere jingle and humor. There is a truth, a vital truth, and it not only concerns a "continent," but, what is infinitely more important to you and me, it concerns the home. A forefather, like the calf, made a crooked path through life, and his sons and his sons' sons, "even unto the third and fourth generation," have followed the trail ever since. And this is why each man of you should walk straight. Some people try to be good just to save themselves, but this is by no means the highest motive that should actuate one. The father who uses profane or obscene language is making a crooked path that may lead others astray not for 250 years, but for time and eternity. The father who is ill-tempered in his family and shows disrespect to the mother of his children is making a crooked path, the following of which may break scores of hearts and wreck countless homes. The man who forms the drink habit is making a crooked path that nine times out of ten will lead his children and his neighbor's children to perdition. What sort of a path are you making, brother? Ponder this question if in the least doubt.

"Look at your work as you'll look at it then
Scanned by Jehovah and angels and men."

Taking the lines in lighter vein—"what fools we mortals be" to follow a beaten path if it is a poor, crooked one; but that is what the great majority do, and if one has the courage to branch off and cut across lots—in a word, if one dare think and act for himself, he is considered a knave or fool or heterodox; there is a lack of mental balance, something is wrong with the fellow anyhow.

All in a Lifetime.—Part 3.

VELMA CALDWELL MELVILLE.

It is not always the great things that shape our destinies; indeed many lives are wholly made up of so-called trifles.

The summer with which we are dealing was a most eventfully uneventful one to Jeff Greely and Patty Pearl Winthrop. One can say that nothing happened and yet everything happened.

After an almost sleepless night and dreary morning of nervous headache, Patty Pearl packed a 3-pound roll of Aunt Ruth Westover's golden butter snugly into a basket within a basket. The space between the two was filled with wet lettuce leaves to the lid of the inner basket; then there were three dozen eggs, "all of a color and size," just as Mrs. Judge Barney liked them. Mrs. Barney was a customer worth having, as Aunt Ruth had discovered, and to have pretty Patty Pearl deliver the produce was the crowning bit of diplomacy. Mrs. Barney gave from two to five cents more per pound or dozen than the merchants and she paid cash down. On this particular morning Patty Pearl arranged herself in a pink polka dot gown and large sun hat, lined inside and trimmed outside with pink tarletan. Broad streamers of the same, caught in at the crown and brought down over the side brims, were bowed coquettishly under her chin. She was enough of a woman to want to look pretty in case she met Dr. Glen, even though the thought of such a meeting made her uncomfortable. "I wonder why I do not like to meet him," she often asked herself. "I always did Jeff." She guessed it was the way he looked at her; a look which seemed to foretell a declaration she dreaded above all things. The very morning that Patty Pearl started out with her "special delivery," as she called it, Jeff Greely hitched his favorite driving horse into a road cart, took a "list of sundries" from his mother's hand and started for "town."

He had gone less than a mile when he overtook Katie Carson. Now Katie had started to her aunt's and her turning-off place was only a few rods ahead; but when Jeff drew up and inquired if she were going far, she promptly answered:

"To town."

And when he wondered if she could manage to ride in a two-wheeled cart, she as promptly replied that she had not only ridden in one, but that she had driven in one herself. The result was that the two soon whirled past Patty Pearl, gingerly picking her way along and trying to save her skirts from the dusty weeds. But the sight of her pretty, flushed face, as she innocently turned to look at them, was like a dagger in Jeff's heart. And how he wished Katie Carson anywhere but by his side. Hours he, and perhaps Patty Pearl, had spent dreaming of just such a chance meeting as this, but now—well Jeff Greely was not a man of the world else he would have managed differently. Coloring to the roots of his hair, poor Jeff pulled up his horse as the two girls exchanged greetings, and stammered:

"If this rig could hold three, I would ask you to ride."

"She might sit on behind," tittered Katie, who evidently was the only one present enjoying the situation.

"Thank you both," said Patty Pearl, "but if you were in the wagon and had three spring seats, I would still prefer to walk, as that is why I am here afoot and Bess and Curly running in pasture. Walking is my favorite headache medicine."

"Got the headache?" asked Katie cheerfully.

"It is much better now."

How she wished they would go on, but Jeff sat gazing at her as if he would devour her with his eyes. It did not even occur to him that he might give her, or at least offer, his place and he walk the remaining three-quarters of a mile. Both the girls were used to driving.

"But you look awfully red and uncomfortable," Katie went on.

She had a lot of old scores to settle. She had always wanted Jeff, and now he had gone with her but once. She hated Patty Pearl because she knew Jeff still loved her. Mechanically he tightened up on the lines, and his trained horse responded by a sudden spring forward and in a moment more they were a mere cloud of dust in the distance, from which Katie's white handkerchief fluttered back at her. Patty Pearl held her head very high, bravely fighting back the hot tears that persistently gathered under her eyelids. She felt that the whole thing had been planned to humiliate her. With hot anger and shame she recalled how often she had hoped for a chance meeting, and how she had thought he did not go with Katie. She was a silly girl, that was what she was, and he must know it. And how she hated Katie; yes, she feared that she really hated her. She had never known how pretty she was before, either; but she—the girl had dared to say it right to her face—had looked "awfully red and uncomfortable."

Of course Jeff thought the same.

She hurried through with her errands, but so long as Jeff's rig was tied at the corner she dare not start home. She would not risk being passed again. She did not care to meet anyone she knew, in her present mood, but decided to call on an old lady in the suburbs of the village, who was an invalid and warm friend of Aunt Ruth's.

"Fate seems to be out today," she declared to herself in dismay, when, within a block of her destination, she saw Dr. Glen coming directly toward her. She could not escape, and did she want to? A sudden madness seemed to thrill her veins. Recklessly she threw aside her usual reserve. Brightly she returned his eager greeting.

Would she let him drive her home? Coyly but willingly she consented. Her manner puzzled and intoxicated her lover. He insisted upon her taking an ice with him at the restaurant while the boy brought his horses.

Fate was "still out" when, less than a half hour later, the stylish carriage dashed by Jeff, Katie and the cart, on the homeward way, the pink streamers of Patty Pearl's hat floating back saucily into Jeff's face.

"Must have gotten over her headache," sneered Katie.

Jeff said nothing, but set his teeth hard and something in his face silenced even the shallow, excited chatterbox by his side. The next Sunday Patty Pearl had to listen to the story she had dreaded. The reaction had set in by this time and her smiles were forced. She had hoped he would not come; hoped something would happen to postpone the crisis which she felt was inevitable, but nothing did.

"You are sick, dear," he said suddenly, his professional touch alarmed by the passive coldness of her hands and her extreme pallor, as she answered that question of questions with a low "yes."

"No, I am quite well," she said, rallying, "but this room is warm. Aunt Ruth is so much afraid of fading the carpet that she keeps out the air."

And then he went to talk with Mrs. Westover, for he was an honorable man and punctilious concerning all the little forms of doing things properly. Aunt Ruth's cordiality was unmistakable. She had hoped for this ending. She had always considered Patty Pearl too good for anybody in Westover neighborhood. Besides, in her heart, she blamed Jeff and here was a chance to "glory over him' nd all his relashun," as she afterward said to her niece. It was decided that they would be married at Christmas. Privately Aunt Ruth decided that it should be a "great affair."

And now Patty Pearl ("Pearl," her affianced called her) set herself to that most difficult of all tasks—the task of tearing an old and true love out of her heart and forgetting it.

"All in a lifetime," she oft repeated to herself, but there was little comfort in it.

And then something else happened—another triviality to all appearance. Patty Pearl was in town having a dress cut and fitted. (She and Aunt Ruth did all the making themselves. Indeed, it was considered a great extravagance in the Westover neighborhood to pay fifty cents for having a dress cut.) One thing and another delayed her, and by the time she started for home a heavy cloud hung ominously in the west and the muttering of distant thunder reached her ears. Patty Pearl was a terrible coward in a thunder storm. Before she could hope to traverse half the two miles between the village and her home the storm would be upon her. Faster and faster she walked, louder and louder grew the thunder, blacker and blacker the cloud, more frequent and vivid the lightning. The air was close and hot, the road dusty, her package heavy. Sure enough, when half the distance was passed and the girl was ready to faint with heat, fatigue and fright, the wind began to blow violently and the rain to descend, while the electrical display was appalling to one of Patty Pearl's organism. Her small sunshade turned inside out and in ten minutes her light summer gown was drenched. All her efforts were directed toward saving the new dress in the package, when indeed she made any effort. She was too certain she was going to be killed to be much concerned about even that. Suddenly, amid the roar of the storm, she heard, or rather felt someone approaching her. She gave a little scream, half of terror, half of relief.

"What under the—good Heavens, Patty Winthrop!"

"Oh, Jeff!"

That was all, for at the instant a blinding flash accompanied by a terrific roar of thunder shut off all other sights and sounds, and the next the girl knew Jeff's coat—and arm—was about her and Jeff's face was close to her's, and Jeff's voice was soothing her as a mother might soothe a frightened child.

"Poor little Patty, was she alone and frightened?" he crooned, trying to wipe with her drenched handkerchief the water and tears from her face.

"Oh, Jeff," she sobbed again, and then burying her face on his broad shoulder she cried hysterically. Surely the fates were out again. When the storm had subsided somewhat and she had grown coherent, he said:

"Dear, little Patty, I know they say you are going to be married, (the fashion in Westover neighborhood was to keep engagements profound secrets, but people would guess and talk), and I know that maybe I should not say anything, but since I've got the chance I must tell you that I was all to blame, and that I always have loved you and suppose I always shall. And I hope you'll be happy, dear. But if ever anything happens; one can't always tell, you'll find a friend in me, Patty—one you need not be afraid to come to."

And then she, poor child, broke down again and cried the harder, and all that Jeff could make out was that she wished the storm had killed her; that somehow she would rather die with him than live with anyone else. But presently she remembered Katie, and then he explained how he came to ride with her that day. All these things only made matters worse, however, but whether it was a kind or adverse fate that sent Dr. Glen along just then, who can say? The situation explained itself quite naturally, for, by the time the dripping carriage top was thrown back, Jeff was ready to assist the girl in, and a few words told the rest—all they told.

The next morning Patty Pearl was in a high fever.

(*To be continued.*)

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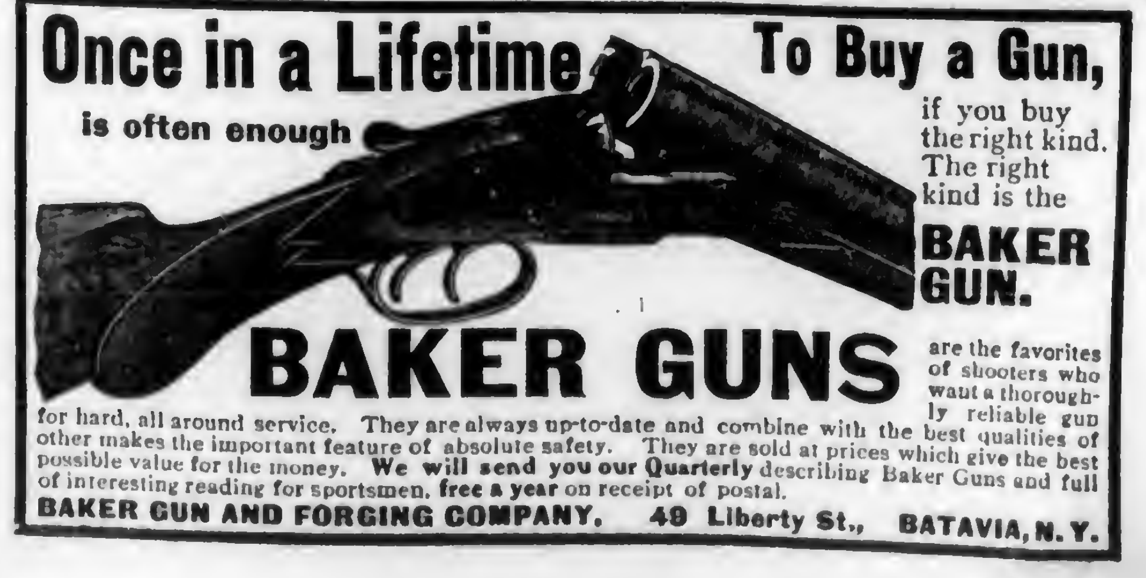

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In the Kitchen.

Mrs. C. C. Hubbard, Corydon, Ind., writes: Those who have never tried canning rhubarb would, I know, like it. I filled several cans today. I have canned this way with the best of success for several years. Prepare the rhubarb the same as if you were going to cook it, but instead of cooking just fill cans, press down close and pour on cold water to cover. Wipe cans dry and put on lids as you would seal any other fruit.

A much nicer and easier way than to sew patches on rag carpet, is to make flour starch as you would to starch clothes. Rub starch on the patch, being careful to have it on the edges well. Put over the hole and smooth with the hands. Lay on one thickness of paper, have iron hot; rub over the patch until the starch is dry, and it will stay there. My kitchen carpet was patched that way last fall. We have been on it all winter and the patches are tight yet. With most country people the dining room and kitchen are all the same room, therefore it should have extra attention. The pantry should be kept as sweet and clean as possible, to have good, sweet victuals. And now for the cellar! It is one of the most important places on the farm, for how can we have good, sweet milk and butter without a dry, well ventilated cellar? So many victuals have to be taken to the cellar in the hot weather. How many have a hole in the floor over the cellar, which should be in the kitchen, just large enough to let a light cupboard or box with shelves in it through to raise and lower by weights. It can be raised, the victuals set in, then lowered, and so many steps saved. I have a friend that has her cellar this way. I expect to have one by and by. The kitchen garden, if rightly managed, is a beauty, joy and benefit all season, be it ever so small. There can be more truck grown on a small patch of ground than many people imagine. Where the early truck is used off something later can be planted on the same place, thus furnishing something fresh for the table nearly all the summer, besides having tomatoes, kraut, pickles, corn, canned beans, etc., for winter. Every garden ought to have a few flowers to add to its beauty. Every kitchen ought to have a good cistern near by.

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Among the Flowers.

MARY L. GARNER.

This is the season of the year when the showy annuals hold forth in all their glory, and in frequent wanderings on this "terrestrial globe" one occasionally sees an old-fashioned, flower-bordered walk and at once becomes reminiscent. In using the word "old-fashioned," it applies both to the kind of flowers and the manner of planting. It was always a rule with the neighboring housewives to make the flower beds and have them ready to plant in seeds of annuals on the first of May. No matter how bright and pleasant the weather there was no deviation from this rule, even so much as one day earlier or later. At that date most danger from frost was past and nothing but gross neglect could check the gorgeous display of bloom. The ground was mellow and the sun shone warm, and they all throve alike, the giant and the dwarf growing harmoniously side by side. There were the rich yellow marigolds and the tiny velvet ones, the bachelors' buttons and lady-in-the-green, zinnias and cockscombs, nasturtiums and snapdragons, touch-me-nots and four-o-clocks (pretty-by-nights) all planted together in promiscuous confusion. The men folks had the common masculine aversion for anything so effeminate as flowers. Since they could not be converted into dollars and cents there was no sense in wasting their time in such foolishness. So every farmer's wife and daughters, who possessed the necessary strength and leisure, and the desire to add to the attractiveness of the farm, must make their own "posey bed." Usually the space for flowers was a strip of ground on each side of the front walk and the entire distance from the front door to the gate was spaded up, thoroughly pulverized and enriched and sown to seed of a variety of annuals. The different packets of seed had been procured either by purchase or exchange and the ground ready before May day, and then the seed in each packet was divided in two equal parts and each half sown in precisely the same number of rows across each strip until each "bed" was full. If for various reasons it was not advisable to have the flowerbeds in the yard, they were sure to be in a corner of the kitchen garden, where they were certainly safer from the industrious mother hen and her hungry brood, or a roving band of mischievous young porkers, who, in their numerous explorations, never failed to find the missing picket or half open gate. But whether a flower bloomed early or late, at noon or at night, it was loved for its individual peculiarity. The marigold blossoms were used for certain ailments, and oh how the children delighted to grasp between the thumb and finger the half ripened pods, or seed vessels of the touch-me-nots, and feel them snap and split with sudden force throwing seed in every direction. Or to stand at dusk and watch the evening primrose instantaneously unfold its dainty, trumpet-shaped flowers. Now the old fashioned border, with its promiscuous array of bloomers, has given place to the exclusive beds of cannas, gladioli, begonias, or other up-to-date flowers; and the lovely camellia-like balsams, the beautiful asters, sweet-scented verbenas and phlox grow in all their beauty along the shrubbery border. Twenty or more years ago the plant and flower par excellence for the florist were the smilax and camellia, which have now given place to asparagus sprengerii and the carnation. New specimen of plants from New Zealand, India or Africa, and from the tropics or polar regions are being acclimated until there is no end to the different varieties one can procure. But the newer and more rare plants can never wholly usurp the place of the old time favorites. A lady in California, who was proudly displaying to an Indianian a plant of our common red clover as a house plant, could scarcely credit the fact when told that it grew by the acre in Indiana. So a plant which may be considered uncommon in one locality may be a native of another. But whether the flowers we love are common or rare, their mission is the same; to cheer and uplift and remind us of the home beyond where flowers never fade, and where it is one bright summer always.

Lyndale, Ind.

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Why They Failed.

MRS. R. C. THOMAS.

We read so many letters from ladies and young girls who have tried to support themselves in the city in different ways, and failed, asking for advice, that I give a few hints thus publicly for the benefit not only of our correspondents, but for others who may be in the same position. They state they have tried to earn a living by painting china, bee raising, silk culture, embroidery, or by making brackets by jig-saw. Why did they fail? The reason, probably, lies in the fact that they began a trade with no apprenticeship, and came at once into collision with experts in it, and so were defeated. A young girl hears of china painting. She sends for a box of colors and a book and soon is dashing off plaques, cups and plates which her friends are delighted to receive as gifts, but which nobody will buy. The reason is they have merit enough to please partial friends, but not the critical public, for whose praise and money so many skilled, patient artists are contending in every department of art. The same history suits the other favorite employments of girls. Perhaps they take up bee raising with absolutely no practical knowledge, and are guided by the vague accounts of the business in the newspapers. Now the world wants the best and most accurate work which can be done in any department. There is too much competition nowadays for a slipshod, careless, though intelligent laborer to have any chance at all. The bees die, the worms perish inexplicably by the hundred, the decorative painting comes out of the oven cracked and discolored, while the work of "stupid" people, who give themselves wholly to the study of their art, succeed. "Be accurate," said St. Simon, "Be accurate, and again, if you ask me the final secret of victory, be accurate."

Flat Rock, N. C.

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The Expert Cleaner.

There are a score of things about the house that you will not undertake to clean. You fear that they would be ruined by soap and you intend to send them to an expert cleaner, an idea that comes down from a time before pure soap was made. The manufacturers of Ivory Soap are constantly asked if they know how beautifully this or that material can be cleaned with Ivory Soap. The uses of Ivory Soap are too numerous to be told; with it anything may be cleaned that will stand the application of water. You can be your own expert cleaner.

Correspondence.

Kate Barnard, Ringwood, Ill., writes: Dear Mrs. Melville: I was much surprised last week, when the P. F. arrived, to see my letter, and wish to thank the one who made the cut of the hotbed; he got my meaning exactly. It looks very natural. There were one or two mistakes in the letter. It should be June 14th the pansies began to bloom. We sent you a box of samples last week that you might see what time they were in blossom this year. Would have written last week but the strawberries kept us so busy. We canned twenty-five quarts and could not tell how many were eaten. We have had good success with plants this year; have sold $10 worth, given away half as many more, and set all we want, but the celery, and there is a lot still left. Our cabbage is beginning to head; tomatoes are in blossom; dahlias are budded, cosmos two feet high and look fine. The balsams would be nice, but we have 60 Toulouse goslings and they get out sometimes and eat the blossoms off. Have over a hundred gladoli about a foot high, and our dianthus pink bed is lovely now. I am partial to these. Have started another bed of them this year. Sent for a Giant Flowering Caladium and a Sauromatum Simleuse. They are growing nicely and will be novelties in this vicinity. Our roses are very nice; have 22 kinds. Have three varieties of peonies—the single like I sent you, red and white double. We had set pieplant roots three times since we moved here 18 years ago and had never succeeded in getting enough to supply us, so last year I sent for a package of seed, planted two rows 30 feet long when we planted the other garden seed. Last fall we had pieplant enough from them to make ten pies and can three quarts; this spring we have had all two families have cared to use. Dozens of people told me it would take three years to get pieplant from seed, and it would have to be transplanted to a trench, dug and filled with manure, and so many other extra directions, that we feel quite elated to think we experimented ourself and were not discouraged by them. Would like to tell you of our Luther Burbank Silver Lining poppy bed. This spring, when the snow went, the bed where we had those last year was covered with little plants about the size of a silver dollar, that were self sown. About the middle of May they began to bloom and the bed has been one blaze of red ever since. They are nicer than tulips, for the foliage is very pretty. So many have watched them as they drive by, not knowing what they can be, and they are so handsome. We have perhaps three thousand pansy plants that were self sown, that we would be glad to give anyone who would like about fifty or a hundred to start a bed, if they would send their address and a dime to pay the postage on them. Have given away enough to start six beds already. I hate to dig them out and waste them, but they are so thick they are a perfect mat and cannot blossom the way they are. We heartily endorse your article on children in the June 20th issue, only we would go further. We believe people should have to pass a medical examination before being allowed to marry, and think the rule of Bible times would be well applied to all men who could not pass a good examination. The number of degenerates is becoming alarming. Persons not physically well and sound ought not to be allowed to become parents.

Farmer's Daughter, Penna., writes: In the June 13th number of the P. F. a lady asks where she can get a cure for intoxication. If she will write to the Physicians' Co-Operative Association, Masonic Temple, Chicago, Ill., they will tell her of a remedy. Have never had occasion to use it, so cannot say anything about it myself. Have any of the H. C. sisters treated the tobacco habit? If they have will they please report results and tell where to get the remedy.

A Michigan brother writes: Dear Mrs. Melville: That is a good editorial you have in last week's issue of the P. F. It is my opinion that if Mr. Roosevelt and the other men had to have the children they seem to be so very anxious should come into the world, they would speedily change their ideas upon the subject. Not that I am in sympathy with the present existing conditions, but I do think that men, as a rule, have no conception whatever of the pain and discomfort that becomes necessary with motherhood, nor, of the nerve-trying and nerve-wearing task of bringing up children. Your remarks upon women working out of doors rubs me a little hard, yet not exactly, for Mrs. E. helps only during the busiest part of the season, and I take care of the children and let her sleep Sunday mornings until eight or ten o'clock. Besides, she hardly ever has to get up during the night. I attend to that part of the proposition myself.

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Youth's Parliament.

Gracie Jenkins, Millwood, Ill., writes: Dear Mrs. Melville: I am a little girl 11 years old. I live on a farm in Macoupin Co., Ill. My papa takes the P. F. and we like it very much. I have a sister and two brothers. I am the youngest of them. I have 41 little ducks. This is my first letter to the Y. P. If this escapes the waste basket perhaps I will write again.

Ethel Hawkins, Newman, Ill., writes: Dear Mrs. Melville: I see letters from other children of the P. F., and thought I would write one. My papa takes the paper and I like to read the young people's letters. I am nine years old. I can help my mamma a great deal. I like to live on the farm. We can raise chickens, geese, turkeys, pigs and calves. I like to go to school. My studies are arithmetic, grammar, geography, history, reading and spelling. I have two sisters younger than myself.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 586, Aug. 22.—*What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in September?*

Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 582.—How to Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?

J. B. Johnston, New Wilmington, Pa.—Many farmers are just now thinking of gathering the early apples, like Astrachan and Early Harvest to make into cider for vinegar. Do not do it. Let them go to market or to the hogs or any place but the vinegar barrel, as they will never make the best article. For many years I have made vinegar for a critical private trade, and have never had a complaint. I make no cider for vinegar until October. Then take apples free from rot. They may be small, they may be bruised, they may be imperfect, but leave out all rot. The more sweet apples you put in the better the vinegar, as it is the sugar that starts the fermentation to alcohol and finally to acetic acid. Add no water at any time. Put 40 gallons of this pure cider in a 50-gallon barrel, and fill up with good old vinegar. Let it stand in a sunny place until December. Then draw off with a siphon, not disturbing the sediment, and put in the vinegar room where the temperature should be from 50 to 60 degrees Fahrenheit. With this treatment it will be ready to use when ten months old. Of course it will be better when twenty or more. If you have no old vinegar for a starter you can put the barrels on a platform, and let the cider run very slowly along a wooden trough, or through a box of shavings to other barrels. When those on the platform are empty put the full ones up and let it run as before. Repeat this five or six times in as many weeks, and you will have vinegar. [A long box of beech shavings will make it in twenty-four hours.—ED.] It will improve with age. If you have to use early apples for vinegar, add twenty pounds of brown sugar to each barrel. To have cider keep a year, make it of sound apples not sooner than November 15th. Put it in new whiskey barrels, and when they are placed where they are to remain through the winter (where they will not freeze), put into each barrel a gallon of sweet milk in which you have thoroughly mixed a pound of fresh mustard seed. When wanted for use draw off with a siphon, or a spigot several inches from the bottom. Do not shake or move the barrel until it is empty. This is a refreshing, invigorating and non-intoxicating drink, but will not make good vinegar.

C. W. Kellogg, Bedford, O.—There is a cider mill here in almost every township, where they use water or steam power. To make vinegar I place the barrel in a suitable place and leave the bung out. As it ferments the settings work out the bung hole if barrel is kept full. When clear put where it will not freeze, the cellar being the best place. It usually takes about a year to finish the souring process. Vinegar made in this way sells here for about a shilling a gallon. To keep cider sweet, we scald it as soon as made, but do not boil it, and we skim off all the scum until it is clear. Then set away to cool and put in a clean barrel in a cool place. Mash a teacupful of mustard seed in a barrel of the scalded juice and it will help to keep it in drinking order. This will have no intoxicating quality and will be a harmless drink, but will not make vinegar. No decayed apples should be allowed in cider.

Frank Yeager, Sprankle Mills, Pa. — We grind the apples in a cylinder mill with the roller full of spikes without heads. They are pressed in a large screw press about five feet in diameter. There is an upright screw and a nut on it with a slot to insert a scantling for turning it. The pomace is covered with a coarse cloth, and the plank platform is put on and screwed down to press out the juice. By letting the cider stand where it is warm it will soon ferment. After it has fermented a few days, draw off and filter through charcoal. Knock one end out of the barrel and cover with burlap. The vinegar will be ready in about six months. The only way I ever succeeded in keeping cider is to put it on the stove, and as soon as it comes to a boil seal it up in bottles airtight and keep in a cool place.

F. J. McAllister, Alliance, O.—I take good, sound apples to the mill and have them pressed. To make vinegar I add about one-fourth rain water, and put it in the sun. Have done it with other water than rain water, too. To keep cider sweet I pour about an ounce of salicylic acid in a barrel of cider, and cork it up air-tight. I have kept it in this way over a year, but it must be done right from the press. [Anything in the shape of chemicals to preserve cider will make it less wholesome, for when we check fermentation with chemicals we also make the article indigestible.—ED.]

A. G. Higgins, Belwood, N. C. — Select sound apples. If you wish sweet cider use the sweet apples, or mix sweet and sour for a more acid cider. Crush and press. Strain twice to get all sediment out. Put in jugs or casks, and keep in a cool place and in ten days you will have vinegar. You can make vinegar from the pomace by pouring water over it and let it run through and be drawn off from the bottom. To keep cider sweet, boil it thirty minutes and skim off all foam while boiling. Add two pounds of sugar to each gallon and put in jugs and cork tight, covering the cork with paraffine.

A. E. Tinkham, N. Scituate, R. I.—I grind my apples in an old-fashioned horse mill into a trough, from which they are shovelled into the press, which will hold 80 to 90 bushels. A curbing keeps the ground apples in place, and rye straw is placed between the layers of apples. After the cider has run half a day I put on blocking, and screw down with heavy wooden screws. The cider is run into a large wooden tub to be taken to the cellar for vinegar. I prefer the cellar for making vinegar. I use old casks that vinegar has been kept in for years, and never allow them to get more than two-thirds empty, and keep filling in my oldest cider to keep the vinegar strong, and thus have strong vinegar at all times. If a darker color is wanted, add one gallon of Porto Rico molasses to a cask of vinegar. Have had no experience in keeping cider sweet.

W. R. English, Rome, Ky.—I select the soundest apples, and wash them clean before grinding. The cider is put in jars to ferment. As a scum rises to the top it is taken off, and the skimming continued until the cider is clear. Then draw off into other jars or barrel, and in a short time you will have good vinegar. I have kept cider by putting it in Mason fruit jars as it comes from the press. But it did not keep long, as it was a delicious drink.

T. C. Vliet, White House, N. J.—We make cider of sound apples in a little mill of our own make. Put it in a barrel and let it stand until spring. Then keep adding some of it to our regular vinegar barrel for family use. If you have part of a barrel of good, strong vinegar, you can add some sweet cider to it in the fall and it will make the best of vinegar. Never tried to keep cider sweet.

A. W. Summer, Ann Arbor, Mich. — We make cider at a custom mill. The quickest way to make vinegar is to let it remain outdoors until through fermenting, though we have had as strong vinegar by putting it at once in the cellar. If wanted extra strong, a small quantity of rain water and molasses added when the cider is fermenting, will make it so. To keep the cider sweet I use the New England Cider Keeper. This is a powder sold at 50 cents a package, which is enough for 40 gallons. Put in when the cider is sweet and keep air-tight. Have kept in this way for two years without change in taste. [Probably a preparation of boracic or salicylic acid, and not wholesome.—ED.]

H. L. Smith, East Dixfield, Me.—We use an ordinary hand mill and press, and let the cider stand in barrels to ferment. It is then drawn off and put in barrels used especially for vinegar. These are kept year after year, and the settlings are allowed to collect in the bottom of the barrels. This quickly makes the cider into vinegar, and the clear vinegar is drawn off above the settlings.

C. J. Moore, R 2, Morrisville, Vt.—To make cider vinegar fill a barrel with one head one-third full of soft water, and then fill with cider. Add two quarts of yeast. In a few weeks it will be good vinegar. If you want it stronger, use less water. It will make vinegar without yeast, but will take months instead of weeks. We have tried several ways to keep cider sweet. Burning sulphur in the cask makes the cider taste of it, and chemicals will kill the life of the cider. Scalding is not satisfactory. The best way we have tried is to take sound apples as late as possible before cold weather. As soon as it has settled after making, draw off by a faucet a little above the bottom of the barrel. Rinse the barrels and return the cider. Before it begins to ferment, draw off again and put in small casks. Fill them full and put in the cellar and keep them full. When the cider stops fermenting, bung up tight and keep in a cool, dark cellar. Draw from a faucet without vent. It will run slowly at first, but you can afford to wait. Treated in this way it will be a sparkling and pleasant drink the following summer. If you want a little something extra for company, when you bung the casks, fill a few quart bottles with the cider and add a teaspoonful of granulated sugar and two or three crushed raisins and cork tight, and place bottles on their side in a cool, dark cellar.

Harry Boll, Stony Brook, Pa.—I haul my apples in clean bags to the nearest cider mill, of which there are a number here. Drive alongside the elevator hopper and empty the sacks in the hopper, and in about 15 minutes I have a barrel of cider loaded, paying one cent a gallon for the pressing. If the barrel is not full when I get home I fill it with cistern water, raise it up from the ground about a foot, take out the bung, and let it remain outdoors for five or six weeks until the waste matter has worked out. Then I run it into tubs and let it stand an hour until the settlings are at the bottom of the tub. Rinse the barrel with clean water two or three times. Then put the barrel in a permanent place and return the cider. I generally put it in the cellar as a matter of convenience, though the attic might be better. I never have any trouble in getting good vinegar. To keep cider sweet I put it in a copper kettle and bring to a boil and skim off the froth. Pour it into tubs and rinse the barrel clean, never using a barrel that has had vinegar in it. Fill with cider and bung up tight. Another way is to let the cider ferment to the stage you may wish to drink it. Then run it in tubs, rinse the barrels clean and add one ounce of salicylic acid and one pint of alcohol and return to the barrel and cork it up tight. [Not a safe plan.—ED.]

SUMMARY.

The methods detailed are those common on the farms all over the land. Directions for making vinegar are thus given by Prof. McCarthy of the North Carolina Experiment Station: "Take sound, clean barrels, clean and scald thoroughly. Fill not over half full of cider that has fermented a month. To this add one-fourth its volume of old vinegar, which favors the true acetic acid and restrains the wild ferments that are floating in the air. Next add a little of the 'mother of vinegar.' If this is not at hand, a fairly pure culture can be made by exposing in a shallow uncovered crock or wooden pail a mixture of one-half old vinegar and one-half hard cider in a room where the temperature is about 80 degrees. In three or four days the surface should be covered with a gelatinous cap. This is the 'mother of vinegar.' A little of this is carefully removed with a wooden spoon or stick and laid gently on the surface of the cider prepared as above. Do not stir it in. The vinegar ferment grows only at the surface. In three days the cap will have spread over the surface of the fermenting cider. Do not break this so long as the cider ferments. If the temperature is right, the fermentation should be complete in from four to six weeks. The vinegar should then be drawn off, strain through thick white flannel, and corked or bunged tightly and kept in a cool place until needed for consumption. If the vinegar remains turbid after ten days, stir into a barrel one pint of a solution of half a pound of isinglass in one quart of water. As soon as settled, rack off and store in tight vessels. Usually no fining of the vinegar is needed. No pure cider vinegar will keep long in vessels exposed to a temperature above 60 degrees. [We have seen it kept in an ordinary cellar until it was 60 years old, and almost pure acetic acid.—ED.] To remove 'vinegar eels' heat to scalding, but do not boil, and then strain through flannel. The rapid method of making vinegar is to run the fermented cider slowly through a box of beechwood shavings wetted with old vinegar. Let it drip into another barrel. In this way good vinegar may be made in one day. To make and keep cider with a bead for drinking, it should be filtered through a barrel of charcoal broken to size of hazel nuts. Fill the barrels perfectly full. Now have cork bungs with a bent tube the size of a quill stuck through the bung and the other end inserted in a cup of water sitting on the barrel. This is to allow the gas to pass off while excluding the air. When fermented to the right point take another barrel and put in it a gallon of water in which a half ounce of formalin has been mixed. Rinse the barrel with this and pour it all out, as the formalin is intended merely to sterilize the cask from ferment germs. Now fill the cask full and bung tight or draw off into bottles and wire the corks down tight and place on shelves on their sides in a cool cellar. To make unfermented apple juice, after filtering through the charcoal as it runs from the press, put the juice in copper kettles and heat to between 180 and 200 degrees, but do not boil. Skim off all froth, and put in soda water bottles with the rubber caps while still hot. Set the bottles on a wet cloth to prevent breaking while filling. Stop up tight and keep in a cool place, and it will be ready to make a refreshing non-alcoholic beverage. Other fruit juices may be kept in the same way." The Pool is threatened with summer dullness. This number leaves the pigeon hole with but five letters. We hope our friends will not forget the Pool in the busy season.

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BY PRACTICAL FARMER SUBS.

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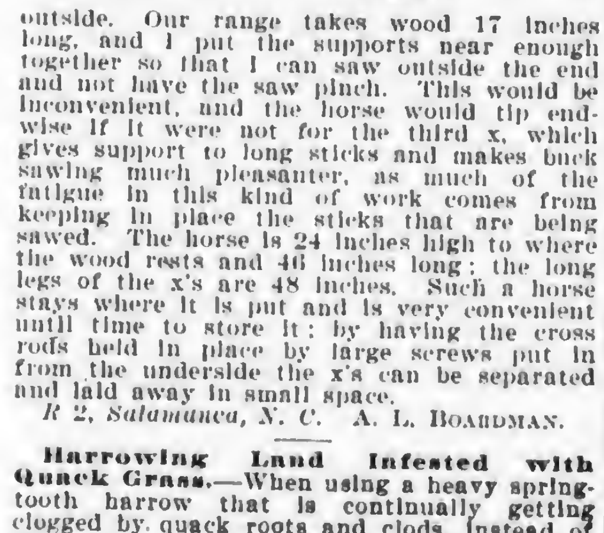
Hot Weather Hints for Washing and Ironing.—Make all everyday clothing as plain as possible. I use colored tablecloths and brown crash towelling. In washing put all articles through wringer lengthwise as smoothly as possible, folding towels lengthwise first. This greatly aids in ironing. When dry, take sheets, knit underwear and baby's napkins from the line, neatly fold and put away. Whenever possible have clothes out in dew rather than sprinkle them. One may have to leave them out all night and bring in before sunrise in morning, but it pays. In taking from the line, neatly fold and put in basket, and your ironing is half done. Do not allow clothing to become too much soiled in hot weather. They wash easier and it takes no longer to wash two than one when very dirty. MRS. W. BOLES.
Ada, Mich.

A Handy Saw Horse.—I use a saw horse that is convenient and steady for sawing, both crosscut and buck sawing; for sawing limbs and poles light enough to handle, yet too heavy to saw with a buck saw. It is about 4 feet long made upon the plan of connecting two horses with three cross rods. We had worn out two single saw horses in the last dozen years, and with a combination buck, which is convenient for both crosscut and buck sawing. It is shown in the figure. It is made of 2x4 oak scantling, halved together and the two nearer x's are only 12 inches apart from outside to outside. Our range takes wood 17 inches long, and I put the supports near enough together so that I can saw outside the end and not have the saw pinch. This would be inconvenient, and the horse would tip endwise if it were not for the third x, which gives support to long sticks and makes buck sawing much pleasanter, as much of the fatigue in this kind of work comes from keeping in place the sticks that are being sawed. The horse is 24 inches high to where the wood rests and 46 inches long; the long legs of the x's are 48 inches. Such a horse stays where it is put and is very convenient until time to store it; by having the cross rods held in place by large screws put in from the underside the x's can be separated and laid away in small space.



R 2, Salamanca, N. C. A. L. BOARDMAN.

Harrowing Land Infested with Quack Grass.—When using a heavy spring-tooth harrow that is continually getting clogged by quack roots and clods, instead of lifting the harrow up and pulling the roots out, just throw the harrow out of gear when turning at ends of field and the obstructions will drop out with a rush. These roots should be afterwards piled up and burnt.
Cazenovia, N. Y. LEWIS W. DAVIS.

Camphorated Oil.—I must tell the P. F. readers of a simple home-made liniment that is almost magical in its results. Into a pint bottle put one-half pint of kerosene and add as much camphor gum as will dissolve, adding a little more day by day and shaking thoroughly. Add one-half pint sweet oil, shake well and it is ready for use. Should be well corked and kept out of the children's way. Use for burns, cuts, bruises, stiff neck and joints, sore throat, bunions, etc., and you will find it is excellent. To illustrate, my arm was burned with a hot iron, the flesh being cooked. It was immediately wrapped in a cloth and was saturated with the liniment and more applied as it evaporated. I felt scarcely any pain, although to look at my arm you would think I suffered greatly. For sore throat and stiff neck saturate a flannel cloth and wrap around neck and keep on during the night. Such a simple, inexpensive remedy is in the reach of all.
Angwin, Cal. BEATRICE TURNER.

Short Cut Gate.—A serviceable gate can be quickly made by nailing plank or strip on two scantlings, for end pieces, using a good, strong plank or strip for top piece. Set two posts about 4 inches apart, for gate to work between. Place gate in position and spike a piece of plank or scantling under top plank from post to post, and a catch on other post, and your gate is done. This gate is much handier and better than the old-fashioned draw bars and is all right where an opening is only wanted in a fence occasionally.
Peterstown, W. Va. R. F. FLESHMAN.

How I Clean Lard Vessels.—Instead of leaving them until all are empty, as some do, as fast as I use lard out, I take old newspapers and wipe off all I can on them, then take an old rag or cloth of some kind and wipe until the can or jar looks almost as clean as if it had been washed. Then with half a gallon of warm water and a little soap you can clean the vessel with very little labor and not have to put on a boiler of water and use half a bar of soap, and wash with three or four waters and have grease to your elbows and a lot of greasy water to carry off. I always scald them and wipe dry, then turn bottom side up with a stick or piece of board under one side so air will get in them. Then they do not smell of old lard when you get ready to use them again.

Use for Shoe String.—If the loops on John's drawers keep wearing out and breaking get a pair of white shoe strings and sew on. I don't think you will be troubled about them breaking or coming off if they are sewed on well. Instead of sewing on along the top of waist band take a piece about 3 inches long, sew on, letting the loop stand up above top of the band. I think it best that way. One pair of strings will last a long time for this purpose.

Raising Bread in Stove Oven.—If you have an oil stove, or if you haven't, get one, light the oven burner just a few minutes, or until oven begins to get warm. Turn off the blaze and set bread in oven. It raises so even and makes such nice round loaves.

Turnip Kraut.—Take all the tough rind off, slice, then run through meat chopper or sausage grinder, and salt same as for cabbage. Use very little salt. Small, tender turnips make as good kraut as do cabbages.
Parkersburg, Ind. MRS. M. FLANIGAN.

Disposal of Slops in Kitchen.—Having been bothered with greasy floors and the slop bucket in the kitchen heretofore, we struck on a successful plan in building a new kitchen this spring. The rear end of the kitchen is about 2 feet from the ground, so we left a hole about 10 inches square in the floor and boxed it up inside; we pour the slop through this into a pail underneath which is near the edge. We thus avoid greasy floors and sour slop in the kitchen.
Sadlersville, Tenn. G. M. PARDUE.

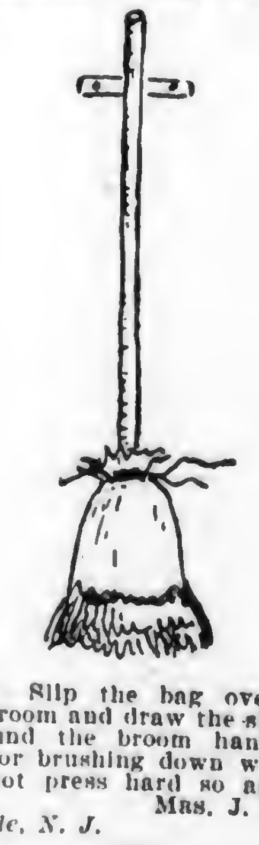
Washing Berries. — Perishable fruits, such as strawberries, raspberries, currants, etc., often have dirt or sand on them. This may be removed by placing the berries in a colander and pouring water on them. The water runs through the fruit taking dirt or sand with it. Any sieve, just fine enough so that berries will not fall through, will answer the purpose admirably.
Oneida, Kan. MRS. J. S. ANDERSON.

Brush for Whitewashing.—Instead of the customary whitewash brush for washing, get an ordinary whisk broom. It is half the price of the other brush, fills all the cracks of the wood and lasts much longer.
Elkton, Ky NELLIE G. CHERRY.

Porcelain Can Tops.—When the caps of Mason's fruit cans give way, save the porcelain that is in the top. They will make nice cup plates. I have used them several years and find them quite handy. Many old people like to pour their coffee into the saucers and these little plates will save the tablecloth. When you get a new dishpan, solder four little knobs under the bottom of the pan, it is not much trouble and the pan will last much longer. MRS. J. W. SPARKMAN.
Middle Fork, Tenn.

Drainage.—When there can be no drainage from the pump or well to carry off the waste water except an open gutter, take a barrel, bore holes around the sides and in the bottom. Then sink it in the gutter three-quarters of its depth. Have a good movable cover. Much of the water will percolate through the ground; the rest can be baled from the barrel and thrown over the surface, thus doing away with the unsightly and unhealthy gutter. C. G. DILWORTH.
Berlin, Md.

A Novel Dusting Cloth.—Take 1 yard of shaker flannel and cut off 10 inches for a double ruffle. Sew the remaining cloth up the sides, as in making a pillow slip, insert the double ruffle in one end, make a hem in the other end and through this pass a shirring string. Slip the bag over the brush end of the broom and draw the shirring string tightly around the broom handle. This is unexcelled for brushing down walls and ceilings. Do not press hard so as to rub the dust in. MRS. J. D. SPRING.
Perrineville, N. J.



Emergency Box.—To almost every reader of the P. F. must have happened the embarrassing delays due to a breakdown in either the harness or vehicle when the nearest repairs may be a mile or more away. It is to prevent some of these delays, or at least shorten them that I offer the following idea for what it is worth: Let a small wood box always form an accessory of every trip taken with buggy, hack, or surrey, etc. In this box place two axle nuts, one for each side of vehicle, also several smaller nuts, a spool of No. 18 wire, an awl, several needles fitted with waxed threads and a small pair of pliers; also some buckles of various sizes and a wrench. Equipped with this outfit one may go anywhere and everywhere.
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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Destruction of Birds.—I will call the attention of P. F. readers to a great mistake which is so often made by farmers, especially those that are not reading farm papers, and that is the destruction of birds. Birds play an important part in relation to agriculture, but there is a tendency to dwell on the harm they do rather than the good. Whether a bird is injurious or beneficial depends almost entirely on what it eats, and farmers should have some knowledge of ornithology or give more attention to the habits of birds. By careful observation it can be seen that birds are destroying injurious insects; those which do harm at one season may compensate for it by eating noxious species at another. Insects are eaten at all times by the majority of land birds; during the breeding season most kinds subsist largely and feed their young exclusively on this food. When insects are plentiful they are eaten by many birds. Even birds of prey resort to this diet when insects are more easily obtained than other food. Some farmers have an idea that woodpeckers are doing much injury to fruit trees. Watch them and you will see that they rarely leave any important mark on a healthy tree. The crow is accused of doing more mischief than any other bird, but it is still a question whether the crow is injurious or beneficial to farmers. Birds, with the exception of those which kill and eat other birds, should be protected. They are too valuable to be destroyed. I have often left a strip of grass or grain standing in order to save a bird's nest.

Wehr, Pa. F. F. FRANTZ.

Culture of Potato Onions.—The potato onion is pink in color, of mild flavor, a good keeper and does not bring top sets. Poultry droppings and stable manure are the best fertilizers and should be applied from one to two months before plowing or spading the ground. Plow or spade to the depth of 6 or 7 inches, which should be done the first days in the month of October, after which cultivate and level the ground immediately. Also cultivate twice just before setting them out, which should be done the last of October or first of November. The furrows for the rows should be 3 inches deep and 14 inches apart, and the onions set from 7 to 8 inches apart in the rows. The ground should be well drained or made in the form of a bed. Use some coarse litter for mulch, such as corn stalks, bean stalks or old tomato vines. The mulch should be removed in the spring when danger of hard freezing is past. After this is done cultivate to a depth of 3 inches and immediately after to a depth of one and a half inches to form an earth mulch. Pull all weeds and grass out of the rows and cultivate once a week for three weeks, when the tops will be too large for the cultivator. In June the tops droop over and there is where I made my mistake, for when this occurred I did not clear the weeds and grass off of the onion bed. Thus the onions were shaded which, together with so much rain caused them to rot. I now have good success by clearing off the grass and weeds. I then place the tops lengthwise of the row, over the onions and where the tops do not cover the onions I cover them with soil a quarter of an inch deep to keep them from becoming sunburned. I leave them in the garden until the last of June. I then pull them and let them dry for two or three days in the sunshine; then put them in shallow boxes or trays in some building where they will keep dry and cool and without too much sunlight. If there is a ground floor, they are put on something to keep them off of the floor. I then cut the tops off within three-fourths of an inch of the onion. J. J. HOOPS.

Farina, Ill.

Lamp Chimneys Breaking. — Cold lamp chimneys sometimes crack if the wick is turned up too high when the lamp is first lighted. The chimney should fit loosely, as the metal expands when heated and will crack the glass if it fits too tightly. Lamp chimneys last longer if annealed, which may be done by putting them into a vessel of cold water and heating to the boiling point, when the vessel should be taken from the fire and the chimneys left in until it is cold. One can generally buy the annealed chimneys. They cost a little more, but last longer.

Uncasville, Conn. MRS. E. N. MOORE.

Watering Trough.—I will tell the readers of the P. F. how I make a watering trough so it will not leak. Take a 2x12, or other lumber, and set it on the edge. Now take a hammer and a piece of iron about one-fourth of an inch thick, set this iron on edge of plank and strike with the hammer hard on it so as to make a groove in centre of edge the whole length. Now dress edge of plank down even with the dented wood, being careful not to dress the dented wood. Dress all edges that are to be nailed together in the same way. When nailed together the dented wood will swell out as soon as water is put in the trough, and when once swelled out will remain so even when trough stands in the sun empty, and will not leak.

Airlie, Ore. ADOLF AEBI.

Raising Turkeys.—They should be attended and handled very carefully. Little turkeys should never be fed until two days old, and while young they should be fed on hard boiled eggs. They should have plenty of fresh water and be kept in a house of ample size. An abundance of fresh air is essential; hence open slats should be nailed on the side the storms do not strike. A house 8x10 feet is about right for those who keep much less than 100 fowls; those who keep over 100 will need a larger house. The floor of earth should be cleaned every week and lime sprinkled in to make it pure. The turkeys should be greased with lard under wings and on head to prevent lice. They should never be turned out on rainy days while young. I prefer the white turkeys to the black ones, although they are more tender. Some turkeys are hard to find. The white ones are preferable in this respect. While young they should be looked after at least three times a day and fed. Feed from 15 to 20 turks three or four eggs at a feed, increasing the amount as they get older.

Academy, W. Va. MARY LYLE DUNLAP.

Slick Up on the Farm.—This is an important part of farm work which should not be neglected. Often in passing through the rural districts we have noticed elegant houses and fine, large barns, betokening wealth and prosperity, and yet in the surroundings many things were to be seen that marred the beauty of the buildings. Gates off their hinges, board fences tottering over, a pile of rubbish in front of the barn and any quantity of sticks scattered here and there; with all kinds of refuse in the garden and many unsightly things in the front yard. A little slicking up occasionally will remedy these evils and enhance the value of property. Not only around house and barn should this slicking up be done, but in the fields as well. In this age of machinery no one can afford to have stones and sticks on his cultivated land. Where farms are stony, the loose stones should be picked up every year, also all sticks that may be seen. Many a binder and mower has been broken by the latter, as well as the former. A careful looking to the fences on the farm three or four times a year should form a part of the slicking up process. When all these things are put to rights we will see fewer young men flocking to the cities, and many more contented to remain in the beautiful country homes, made so by slicking up.

Chesaning, Mich. WM. L. BLAKESLEE.

Twelve Acres of Melons.—Last year I had two fields of 6 acres each in melons; from one I realized about 900 baskets and from the other 500 baskets. The latter with proper care would have yielded at least 1,200 baskets. But when harvest time came on I thought I would harvest a few days and turn a few extra dollars. I harvested a week and in the meantime the melons had grown so rapidly that I could not cultivate them without turning the vines and, they were so foul that I could not turn them without injuring them. So at the end of the week of harvesting I had secured $9 cash and had probably lost $150 to obtain it. Had I invested that week of labor in the proper way and place, it would have brought me at least 16 fold. So I would say, do not fail to do your part at the right time, and if you do not meet with success you will have the next best thing, for you will have deserved success. O. G. LANNING.

West Alton, Mo.

Setting Hens and Caring for Chicks.—Take a box large enough for a hen, put dirt on bottom with straw to hold eggs in place. Let hens stay on until sure they are ready to sit. Put the eggs under; if a large hen she can cover 17. At night remove to some place where they will not be disturbed by other hens (I use part of the wood house), taking them off every day to feed. On the 14th, 17th, 18th, 19th and 20th days sprinkle the eggs with just a little warm water. I have had from 13 to 15 chicks hatch by this method. Take chicks from nests, put into basket with cut straw in bottom. When 24 hours old put into box with sand, give hard-boiled eggs, water and bread made of corn meal and shorts, with a little salt and soda in milk that you wet the flour with. Bake until well done and feed every two hours through the day. I take chicks from hen and then re-set the hen, keeping chicks in brooder or box. When I use boxes I take a flat gallon jug, fill with hot water, wrap a piece of old carpet around it, put it in box with chicks and cover box with old carpet. Do not put over 30 chicks in a box. Keep them in a dry shed and when old enough make a runway with poultry wire where the sun can shine on them. Box must be kept clean. Here they are safe from cats and hawks and the old hens will not eat up what the chicks ought to have. When they are ten weeks old you have fine broilers.

Northfield, O. SUBSCRIBER.

Mistake in Melon Growing. — For some time we have been raising watermelons for market, and to all P. F. readers who wish to raise good melons I would say, never plant in the same ground year after year, but always change patches every year. Our experience is that planting in the same patch will bring failure. One year we planted in the old patch by digging in the old hills and putting the seed in. The hills had been manured the year before and we thought to put in more manure would be better than to change patches. As the patch was not large enough, we ran our rows out longer, out beyond the old patch, put in manure and planted all together, the soil being about alike all over. Outside of the old patch there were good melons, while the others in the old patch made almost a failure. So I say that planting in the old patch will not do for melons. To grow melons here we lay off our ground 8 feet each way and dig holes to put the manure in; list on it and let lie until planted, then break the middles out, plowing them both ways. I think the patch ought to be prepared in winter, then the manure will have time to rot before planting.

Hunt, Ark. A. D. PRICE.

WHAT THE EARTH PRODUCES.

Are We Children of Nature?

WHO can but admire the beautiful things in Nature—the glory of the landscape, the trees, the meadows, the beauty of the sea and heaven! When we can admire we know that we are children of nature. The earth has nourished us through unknown ages of human existence. Is it not true that the earth supplies us with everything that we really require for existence? We can live on vegetables and fruit which the earth produces. We would probably be better off to-day as a race without meat. Have you ever thought that it is probable that the earth supplied us with the means to keep our bodily vigor, our health, if we only knew it? The animals know by instinct what is good for them and will search until they find in some plant what they need for correcting indigestion or constipation, etc. Is it, therefore, not possible that there are roots and herbs supplied by nature which will cure the diseases that afflict human kind? That is why Dr. Pierce, of Buffalo, N. Y., has such faith in his "Medical Discovery." Years ago, when he was in general and active practice, he found that a combination of certain herbs and roots made into an alterative extract, without the use of alcohol, would always put the stomach into a healthy condition, nourish the tissues, feed the blood and nerves and put healthy tone into the whole system.

There are some people who can lose *fat* to advantage, but the loss of flesh is one of the accepted evidences of failing health. As flesh-making processes begin in the stomach, so naturally when there is loss of flesh we look first to the stomach for the cause. And the cause is generally found to be disease of the stomach and digestive and nutrive tracts, resulting in loss of nutrition and consequent physical weakness.

Dr. Pierce's Golden Medical Discovery restores the lost flesh by curing diseases of the stomach and other organs of digestion and nutrition and enabling the perfect digestion and assimilation of food from which flesh and strength are made.

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"I was all run down, very nervous, and suffered terribly from stomach trouble, which the doctors pronounced indigestion," writes Mrs. Wm. Morey, of Marshall, Mich. "I doctored for a year without permanent relief. Was advised by a friend to try Doctor Pierce's Golden Medical Discovery, and after the use of nine bottles I was cured. I can heartily recommend the 'Golden Medical Discovery' to any one suffering from stomach trouble. My husband was also greatly benefited by its use."

"I am pleased to tell you that three bottles of Dr. Pierce's Golden Medical Discovery has cured my husband of liver complaint and indigestion," writes Mrs. G. Hall, of Novar, Ontario. "He suffered for a long time with pain in his right side and had to leave off work several times. Tried three doctors here but they did not do any good; also tried several kinds of patent medicines but received no benefit. Then I wrote to you and you advised us to try your 'Golden Medical Discovery.' We got a bottle at once and before my husband had taken all of this one bottle he was feeling ever so much better and able to work again. He continued with the 'Discovery' until he had taken three bottles and is now feeling better than for years. We both thank you, and, if you think by publishing this it will benefit other sufferers, you are at liberty to do so. We have got several friends to try your 'Golden Medical Discovery' for different complaints and I am pleased to say that it has never failed. We wish you every success."

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THROUGH CO-OPERATION AND PROFIT-SHARING. By co-operation that co-operates; by profit-sharing that does share profits. We are giving our customers an interest in our business, letting the people own the store which they patronize and by this system of **profit-sharing** are gaining the hearty co-operation of every customer, increasing our business tremendously, reducing all expenses to the lowest level ever known and are thereby enabled to sell all goods at **positively the lowest prices ever known,** far lower than our past low prices which have saved so much money to our customers; far lower than the so-called "low prices" of any other department store, catalogue house or mail-order house. The millions of people throughout the country who have learned to patronize the mail-order houses because of the great saving of money they make possible, are turning their trade into our establishment because they realize the wonderful features of our plan (the most liberal plan ever heard of); the enormous saving of money on their goods; the profits they make on the goods they help sell for us and above all, the splendid returns of interest on their money induces them to take hold of this new idea in trading compared with which all other methods of trade are out of date and wasteful.

AT FIRST WE MADE THIS OFFER CONFIDENTIALLY TO A FEW OF OUR OLDEST CUSTOMERS, asked their opinion about it, and the enthusiasm with which they took hold of the idea convinced us that we had at last solved one of the greatest problems of trading; that we had at last succeeded in cutting out the last remains of the expensive, oppressive and wasteful middleman's system, and that we were justified in making our generous offer to the people at large and let them share in the great profits of the mail-order business—profits which are so large, not because of the profit charges on the goods, but because of the tremendous volume of sales.

WE GUARANTEE TO PAY YOU AT LEAST 7 PER CENT. INTEREST on your money and as our institution has made as high as 40 per cent. on the capital invested, there is no reason why—with the much larger business secured through the co-operative plan we should not be able to earn for our shareholders **ADDITIONAL DIVIDENDS AMOUNTING IN ALL TO 40 PER CENT. PER YEAR** How this is done is fully explained in our "Book of Information," which we send to all shareholders *free of charge.* This book fully explains all the details of our business; the wonderful earnings of the co-operative societies of the world, and if you have any hesitancy about sending your money, and are willing to take chances of being too late, write for the book today. **A return of more than thirty times the investment in six years.** The tremendous earning power of the mail-order business is history. One of the pioneers in the business, as long as twenty-five years ago, started with a small office and having little or no money, offered a half-interest in his plant for $2,000, which money he desired for the expansion of the business. He was refused. Today this same $2,000 half-interest is worth $3,000,000 and not for sale at any price. And all this vast capital has been piled up by profits of the business. For another example: Eight years ago a Chicago capitalist entered a newly started mail-order business. He contributed to the capital of the firm less than $40,000. During the six years of his active connection with the business he withdrew many times his original investment in dividends, and finally he sold his interest for considerable over a million dollars. Six years in the mail-order business netted him **more than thirty times** his original investment. All this was done under close individual partnership, with limited capital and without the tremendous co-operation and selling force of an army of thousands of co-operative stockholders. The business of two of the largest mail-order houses combined amounts to $35,000,000 annually and yields a profit of $1,400,000 on a total capitalization of less than $4,000,000, **or 35 per cent. on the investment.** With such achievements by private individuals, a strongly co-operative organization with a capital greater than that of all others combined. **With the most skilled force of managers and employes recruited from its own shareholders** will without question, achieve still greater results both in point of sales and net profits produced.

OUR IRON CLAD GUARANTEE. Every dollar received in payment of the membership and profit-sharing certificate of stock goes right into the business; not one cent is paid to promoters or fiscal agents, but the entire amount subscribed, without deduction of any kind, is used for the development of the business; for the buying and manufacturing of merchandise of every description and other business purposes. The whole property of the company, its entire plant, stocks of merchandise, cash in banks and on hand; all its assets property, property rights, trade-marks, trade-rights and good will are the security for both the principal and the interest on your money. Not one cent of the dividend can be paid to anyone until the holders of our preferred shares have first been paid their guaranteed 7 per cent. each and every year.

DO NOT CONFOUND OUR LIBERAL OFFER of making you a partner in our business with any of the many schemes in which you are asked to join a mining company or an oil-well concern. They are all speculations and ninety-nine out of every hundred of such schemes made alluring offers of large returns which they cannot fulfill, because if the gold-mine promise does not show the gold which you are prospecting for; or the oil-well which you have dug refuses to spout or petered out—your money is lost. There is no such chance, no such risk in putting your money into legitimate, high-grade business which **is a going and money-making concern,** with a successful record of 18 years standing and which

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YOU ARE INVITED TO BECOME A PARTNER IN OUR GREAT BUSINESS and share in its profits in the exact proportion of your contribution to the capital and the amount of goods you buy, and which are bought by all our other customers. **We have Divided the Capital into Shares** of $10.00 each, so that you, even if you have but the most modest means, can take advantage of this truly wonderful opportunity to—

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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in western part of Sullivan Co., 4 miles from S. & N. Y. R. R., 7 miles from Forksville. The season started out very dry, but rain came 3 or 4 weeks ago. Country is somewhat hilly but fairly productive; good grass, oats and corn country; wheat also is being raised of late with good success. Farm help is somewhat scarce. Last year's potatoes, 75c. per bu.; butter, 18c. per lb.; eggs, 14c. per doz.; hay, $10 per ton; oats, 45c. per bu.; fat cattle, from $3.75 to $4 per cwt.; pork, 8 to 10c. per lb., dressed. Prospect for winter fruit is comparatively light. The P. F. is welcomed in quite a number of homes, may it long continue to be.

C. J. Brackman.

Platt, Pa., July 14, 1903.

Located 5 miles from Tunkhannock, the county seat of Wyoming county. Owing to the protracted drought we had through May and the first of June, the farmers were quite discouraged, but since then we have had plenty of rain and the crops are doing finely. Hands are scarce and wages high. Hay is worth $10 per ton; potatoes, 50c. per bu.; butter, 18c. per lb.; eggs, 17c. per doz.

Sam'l Valentine.

Vose, Pa., July 14, 1903.

Located in Central Ohio., in the gas belt. Excellent weather. Corn doing fine. Wheat fair; ready to cut; oats best in years; grass medium; good prospect for apples and blackberries; raspberries good; strawberry season over, with short crop. Prices as follows: Old wheat, 70c.; oats, 35c.; corn, 45c. per bu.; hay, $16 per ton; cattle, $4.25 per cwt., on foot; horses high and scarce; hogs, $5.25 to $6 per cwt.; sheep, old, 5c.; lambs, 6c. per lb.; chickens, young, 35c. each; old, 7c.; butter, 20c. per lb.; eggs, 15c. per doz.; raspberries, $2.50; potatoes, old, 60c.; new, $1.25 per bu. Could not do without the P. F. in home.

B. L. Phillips.

R 1, Lancaster, O., July 13, 1903.

Located in Cherokee Co., 8 miles from Joplin, Mo., the centre of the great lead and zinc mining district. Season late, owing to excessive rainfall. Wheat harvest good; outlook for corn poor so far, but farmers say it will come out all right. Weather unusually cool for the season. Hay, timothy, $13; prairie, $11 per ton; oats, 55c.; wheat, 80c.; corn, 65c. per bu.; corn meal, $1.50; chop, $1.25 per cwt.; apples, 70c.; new potatoes, $1.20 per bu.; eggs, 12½c. per doz.; chickens, hens, 8c.; spring, 12 to 15c.; butter, country, rolls, 13 to 15c.; creamery, 21 to 22c. per lb.; wages in the mines, $1 to $3.50 per day; farm hands, $14 to $20 per month; girls for housework, $1 to $3 per week; teachers, $30 to $80 per month. Floods in this State have been something dreadful this summer, but we hope the worst is over. We could not "keep house" without the P. F.

Mrs. W. E. Johnson.

Box 54, Empire City, Kan., July 11, 1903.

Located in Washington Co., 20 miles west of Fayetteville, on the 'Frisco R. R. Altitude 1,400 feet. Delightful climate. A good breeze during the summer and sunshine through the winter. The banner apple section of the U. S. Great improvements in the roads recently. Country generally undergoing improvements. Beautiful springs issue forth from the mountain sides, furnishing everybody with the finest of water. This county unexcelled for health and beautiful scenery. The money crops on the mountains consist principally of apples, peaches and strawberries. In the valleys stock raising and general farming are the chief occupations. Prices: Bran, 70c.; corn chop, $1.25 per cwt.; hay, $10 per ton; oats, $1.25 per 100 binds; horses, $40 to $125; cows, $20 to $40 each. A good season.

T. S. Bain.

Lincoln, Ark., July 10, 1903.

We had a good rain this week, the first in seven weeks. All early crops badly damaged by the drought, especially corn. Cotton is the worst I ever saw at this time of the year; the best only knee high and not a bloom to be seen. Live stock is doing well, except hogs, which are dying with staggers. Prices: Corn, 85c. per bu.; flour, $5; meal, $4 per bbl.; meat, 12½c.; butter, 20c. per lb.; eggs, 15c. per doz.; chickens, 20c.; horses and mules, $20 to $200 each; beef cattle, 4½c. per lb., on foot; milch cows, $20 to $35 each; land, $4 to $25 per acre.

James H. Pack.

Floyd, La., July 13, 1903.

Located 5 miles east of Booneville, the county seat of Warrick Co. The P. F. has found its way into many homes and its teachings are practiced by many of our neighbor farmers. Farmers well along with their work; wheat cutting finished; corn looking well; oats medium; hay fair crop; fair crop of apples; peaches damaged by late frost; small fruit plentiful; wheat 50 per cent. of a crop. Prices: Corn, 40 to 45c.; wheat, 70c.; oats, 25c.; new potatoes, $1.40 per bu.; eggs, 12c. per doz.; butter, 12c.; chickens, 13 to 15c. per lb.; hogs, $4.75 to $5; beef, $1.50 to $3.50 per cwt.; hay, timothy, $10 to $12; clover, $8 to $9 per ton.

H. W. Wilke.

Booneville, Ind., July 14, 1903.

Located in the Shenandoah Valley, 12 miles from Harrisonburg, the county seat of Rockingham Co. Land good but hilly, and washes easily. Had a wet June. Wheat crop above an average; hay crop short; pasture good; gardens looking fine; barley and rye good crops; corn and oats looking fine and everybody has a good stand of young grass. Wheat all cut and hauled in and threshing begun. Prices: Wheat, old, 83c.; new, 75c.; corn, 57c.; oats, 43c.; potatoes, new, 60 to 70c. per bu.; hogs, 5½c.; spring lambs, 5¼c.; butter, 13c. per lb.; milch cows, $25 to $40; horses, $50 to $75 per head; hands get from 75c. to $1.25 per day and from $10 to $15 per month and board; girls, from $1 to $1.50 per week. Have telephones, free delivery, churches and good schools all around us and about everybody takes the P. F.

J. E. Hartman.

R. F. D., North River, Va., July 15, 1903.

Moniteau Co., Mo., the centre of the State. Weather fine; nice showers; everything growing now. The spring was too wet for most crops therefore crops are very late; corn is from knee to waist high; wheat all cut, average crop, good grain; oats spotted, some pieces good, some dead with rust; corn clean and growing nicely; stock looking very well; everybody busy; hay crop very good, except a lot of white flowering weeds in it. Prices: Corn, 50c.; wheat, 80c.; oats, 27c. per bu.; fat cattle, 5½c.; hogs, 5c. per lb.; horse and mules high and scarce; harvest hands scarce at $1 per day. Success to P. F., prosperity to all.

Mrs. J. W. Hickman.

Tipton, Mo., July 13, 1903.

Located in St. Lawrence Co., 18 miles south of Canton, the county seat. April and May were very dry; June and July so far wet. Farmers busy hoeing corn, which is backward. Oats are looking well and promise a full crop; hay about two-thirds of a crop; potatoes poor; pasture good and cows giving a good flow of milk which brings good prices. Prices: Butter, 22c.; cheese, 10c. per lb.; eggs, 16c. per doz.; veal calves, 5½c.; hogs, 5¼c.; wool, 18c. per lb.; potatoes, 60c. per bu. Farmers are happy and contented.

E. A. Dygert.

Edwards, N. Y., July 14, 1903.

Located one mile and a half east of English, the county seat of Crawford county. Land is naturally hilly, with plenty of clear, cool springs. Wheat, corn, oats and hay are the principal crops. Wheat all harvested. We are having fine growing weather now for grass, oats and corn, which all look very good. Telephone service extended to almost all parts. Prices: Wheat, 70c.; corn, 50c.; oats, 36c. per bu.; horses, $50 to $125; cows, $25 to $30 each; hogs, 5½c. per lb.; eggs, 12c. per doz.; butter, 15c. per lb.

J. F. Eastbridge.

English, Ind., July 13, 1903

This from Marion Co., W. Va. Fine growing weather, warm, but plenty of rain. Wheat all in shock; oats heading out; corn worked twice, looking fine. Farmers somewhat behind with their work. Some damage done to corn and oats fields owing to heavy rains. All vegetation and growing crops pushing forward. The outlook is good. Prices: Corn, 75c.; oats, 50c.; wheat, 85c.; potatoes, $1.40 per bu.; butter, 15c. per lb.; eggs, 18c. per doz.; chickens, spring, 20c.; old, 9c. per lb.

E. R. I Freeland.

Barrackville, W. Va., July 13, 1903.

Located in or near the centre of North Carolina. The land is sandy; good for cotton. Corn is looking well. Has rained again. Corn land too wet. Farmers are breaking fallow land for peas. Gardens looking well; Irish potatoes very sorry; sweet potatoes looking well; early fruit sorry; late peaches a fair crop; grapes are looking well but rotting; some tobacco starting nice; not much planted. We have no rural mail. We get mail three times a week.

Oscar Andrews.

Manndale, N. C., July 11, 1903.

Since the cessation of our heavy rainfall here the 3rd of June, we have had only one rain. It is very dry and the ground in places is getting very hard. Work is progressing in fine shape, but we are not up with it yet by about two weeks. Wheat is nearly all harvested and oats partly in the shock. Compared with the average wheat is about 125 and oats 80; corn is very small for the time of year. Very little too large to cultivate with 2-horse plow.

W. W. Jones.

Oneida, Kan., July 11, 1903.

Located 15 miles southwest of Auburn, the county seat of Nemaha Co. Rural mail delivery reaches the farmers; many have access to telephones. The heavy and incessant rains the latter part of May and first of June did much damage throughout the county. Corn is very late, much of it having to be re-planted. Most of the oats are short, and wheat is light. May 1st a heavy frost destroyed the fruit. Farm hands are very scarce. Horses are very high. Land is selling from $50 to $80 per acre; wheat, 55 to 60c.; corn, 39c.; oats, 30c. per bu.; butter, 15c. per lb.; eggs, 12c. per doz; hogs, $5 to $5.25; fat cattle, $4.50 per cwt.; cows, $30 to $50 each; potatoes, 85c. per bu.

E. C. Toland.

Johnson, Neb., July 11, 1903.

At last drought was broken and since June 25th we have had fine growing showers; since that date much corn has been sown with buckwheat; a good deal of corn fodder sown. Meadows that were burned brown have grown wonderfully and will make on an average three-quarters crop; rye crop is a failure in many places; hops have gained since rains and warm weather, but growers look for fair prices. Creamery sales for June were 22c. All feed continues high and oats will make quite a fair yield.

G. H. Townsend.

West Berne, N. Y., July 15, 1903.

Located midway between Philadelphia and Atlantic City, in Southern New Jersey. Truck crops almost exclusively grown in this section, and are growing well since warm wave struck us. Rural delivery; no rural 'phones yet. Help scarce; work all behind, owing to drought and later continuous rains; many fields green with weeds on latter account, but our sandy soil can be worked an hour after any rain. All fruit crops scarce—perhaps one-third crop, except blackberries, which are good. Sweets rotting badly in fields. New potatoes, $1; sweets, old, $1.20; peas, $1.60; onions, $1 per bu.; cucumbers, $1.25 per crate; blackberries, 8 to 9c. per qt.; cabbage, $1.50 per bbl.; string beans, $1.25 per bu.

Ernest Wykes.

Forest Grove, N. J., July 15, 1903.

Twelve miles east of W. Union, the county seat of Adams Co., the only county seat in the State without a railroad. There will be an electric road built in the near future, from Georgetown, giving connections with Cincinnati. Weather very warm at present; very cool up to June 30th. Corn backward, but will make a good crop if weather keeps favorable; wheat harvest over; good, but injured some by rust; oats short; potatoes and grasses good; tobacco set out very late; stock very high. Fat cattle, 5c.; hogs, 6c. per lb. Country healthful. Good schools and plenty of churches.

Wm. C. Graham.

Box 33, Cedar Mills, O., July 13, 1903.

◆

Make Your Stock Comfortable.—During the heated summer months, when the flies are so annoying to all kind of stock, it pays in dollars and cents to keep the pests in subjection as much as possible. This can be done in the surest way by using "Shoo-Fly," the fly repeller manufactured by the Shoo-Fly Mfg. Co., 1005 Fairmount Ave., Philadelphia. The best thing that can be said as to its efficacy is the fact that stockmen and farmers who give it a trial always send for a supply every succeeding summer. They have found that it pays to use "Shoo-Fly." Mention P. F. when writing about it.

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We offer improved Iowa farms close to church, school and town, with local telephone and rural mail delivery, soil rich, black loam, and level, at $45 to $65 per acre. We also have special bargains in North and South Dakota and Canada. If you wish to buy or sell land or city property anywhere, write to us for confidential terms. We make a specialty of long range sales, so no matter how far away you live, if interested, write us. We refund railway fare to parties who buy of us. Send for price list with pictures of farms.
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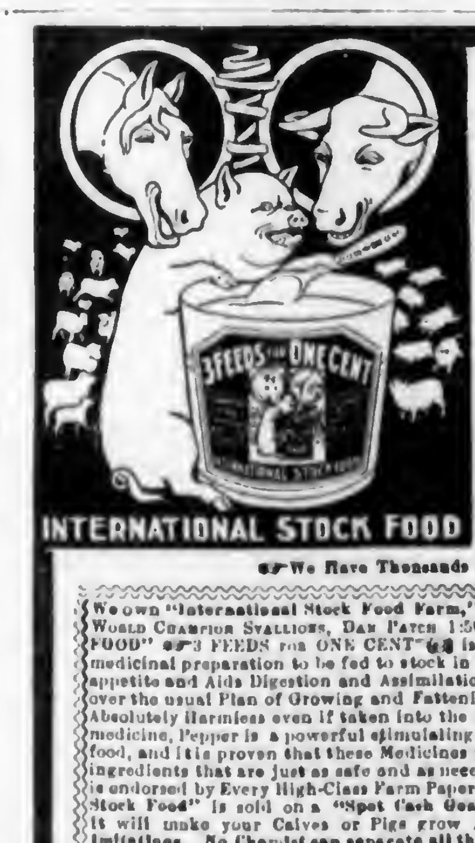
ROUND TILE
Round AGRICULTURAL DRAIN TILE. For 45 years we have been making these and Sewer Pipe, Red and Fire Brick, Oven tile, Chimney and Flue Linings and Tops, Encaustic Sidewalk Tile, &c. Supply Mortar, Colors Plaster, Lime, Cement &c. Write for prices. John H. Jackson, 48 3rd Av, Albany N. Y.



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MOUNTAIN GROVE, MO., December 7, 1902.
International Stock Food Co., Minneapolis, Minn.
GENTLEMEN:—I have tested "International Stock Food" for Horses, Cows, Calves and Hogs and it gave marked results in every case. I had a horse with the farcy, swollen as thick as my hand all over the belly and after two weeks' feeding of "International Stock Food" he was sound and well. All my teams have done remarkably well and are fat. My cows also show a large gain in milk and flesh, and it caused the finest growth on a jack colt that I ever saw. My fattening hogs have done the best I ever had hogs do and the growth of my pigs and shoats was simply marvelous. A stockman remarked that my thoroughbred hogs were the finest he ever saw. I never expect to be without "International Stock Food" for my stock as it makes me extra money.
Yours respectfully, JAMES B. DAKE.
☞We Have Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited.☜
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WHAT PEOPLE SAY ABOUT THIS BOOK.
INTERNATIONAL STOCK FOOD CO., EAU CLAIRE, WIS.
Dear Sirs:—I received your "International Stock Book" and was more than pleased with it. It is worth more than $10.00 to me. Very truly yours, RICHARD J. MORRISSEY.
INTERNATIONAL STOCK FOOD CO., ODESSA, MO.
Dear Sirs:—Your "International Stock Book" duly received, and it is the best thing of its class that I have ever seen. There is a volume of useful articles in it from start to finish. Respectfully, GEO. W. NULL.
A $3000.00 STOCK BOOK FREE
IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.
The Cover of this Book is a Beautiful Live Stock Picture ☞Printed in Six Brilliant Colors. Size of the book is 6¼ by 9¼ inches. It cost us $3000 to have our Artists and Engravers make these Engravings. It describes common Diseases, and tells how to treat them. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains Life Engravings of many very noted Animals, and also testimonials. The Editor Of This Paper Will Tell You That You Ought To Have This Stock Book in Your Library For Reference. ☞It Contains a Finely Illustrated Veterinary Department That Will Save You Hundreds of Dollars.
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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Manure Spread in the Fall is not Wasted.

A. D. Hale, Tangent, Oregon, says he saw it stated in the P. F. that manure spread on the fields in the fall was practically wasted, as the fertilizing elements leached out. He has bought a small farm near the village. He thinks the land needs humus. It had been rented out for several years and now it plows up in lumps that can hardly be worked down. Friend Hale's plan is to gather up all manure he can at home and in the village, and spread on the land this fall as soon as the crop is off and plow it under Then next spring he intends to put on more manure and plow rather deeper than in the fall. He has also thought of sowing rye this fall to plow under next spring. They have much wet weather in the winter and little freezing. He does not wish to lose any of the manure he puts on and asks the P. F. for advice. The general statement that manure spread on the land in the fall is practically wasted is entirely wrong. "The fertilizing elements may leach out" into the soil somewhat, but, as a rule, the soil will hold them pretty well. Time and again the writer has seen farms of rather level clay loam land, where manure was taken out daily, or frequently, during fall and winter and spring, and spread on the land for corn. Invariably the land where manure was put on in the fall gave a better yield of corn than did that where the application was made in the spring. The manure applied in mid-winter gave better results than that put on just before plowing in the spring, but not as good as that applied early in the fall. Science and practice agree on this point. There are extreme cases where the fall application of manure may not be wise. On very sandy soil, and in a climate where the winters are quite open and rainy, and particularly if the land has no live crop on it, there will be some loss of fertility by leaching down with the drainage water. On such land rye, crimson clover, or some other suitable crop, should be put in before the manure is spread. Or it may be spread on a sod, of course. Then there will be no practical loss. Whenever the ground is thawed out so there is danger of leaching the roots of live crops will be ready to take up available plant food. And this is the best plan for all kinds of soil, as bare clay land will leach some where the winter is open. During all of the writer's long experience he spread manure in the fall, or late summer, as a rule, but on sod land. Your land, friend Hale, has considerable clay in it, and it is not leachy, but it needs humus, as you say. I would advise plowing the stubble as early as you can and then hauling on manure and spreading evenly. After that work the land well and sow rye. Plow it under in the spring when it is about two feet high, say, and at once work it down thoroughly. It is important that you do not let it lie and dry out, or leave open spaces in the soil. This will be adding vegetable material fast enough. If you can get more manure put it on more acres. I would not plow the manure under in the fall unless it is so very strawy that you must. A disk or cutaway harrow will work it in with considerable straw in it. You can spread manure on the rye after it is up, but it requires a good deal of care to get it so thin and even that no rye will be smothered to amount to anything. Strawy manure can be used this way. I would plow and sow rye on all the land, manuring before seeding so far as you have time and the quality of the manure will permit, then top dress the rest later. Then you need fear no loss of the fertilizing elements in the manure, practically, no matter how open the winter. I would advise putting on about 15 tons of manure per acre on 20 acres, rather than 30 tons per acre on 10 acres. It will pay you well to have it spread very evenly and finely, not thrown off carelessly in forkfuls.

How to Make a Cement Floor in a Close Building.—A number of questions have come in along this line. One man tells of a floor laid at a cost of 17 cents a square foot. Our floor did not cost the third of this and there is no better floor in a stable anywhere. It is simply perfect. These floors are for stables right on the ground. There is no need of any foundation of stones or gravel to lay the cement mortar on. Put it right on the earth. It doesn't matter whether it is clay or sand or gravel or soil; only it must be well settled and solid, so no part of it will settle any more. It can be settled by flooding with water or by pounding. The stable must be underpinned, of course, and properly drained so no water will come in. Grade the ground off with a straight edge and level before beginning to lay mortar, having it just as you want the finished floor, only the thickness of the floor lower. Dig out the trench for a gutter in cow stable, if you want one. This should be level from end to end. The floor under the cows should have about 1½ inches fall from front of manger to gutter. I would have no gutter or trench in horse stable, but have about 2 inches fall, so liquid will work back. Stanchions and mangers and partitions can be fastened after the floor is hard, by boring holes through the woodwork and drilling holes to match in the cement and putting in iron pins. Where posts to support heavy weight are to stand it is better to lay stones beforehand, with iron dowels in them sticking up. Lay the mortar around these dowels and later put the posts on them. Our floors were built of common Akron cement, costing less than a dollar a barrel, here, in paper sacks. Then to mix with this we used fine gravel that was about half sand. All sand makes the floor too slippery. There are two very important points to look out for: All sand and gravel must be sharp and pure, entirely free from soil. Then the mixing must be thoroughly well done. Dirty sand and gravel, or careless mixing, will surely spoil any floor. We used two pails of sand and gravel to one of cement. You should have at least two boxes to mix this in and shovel from one to the other, while dry, four or five times, having a trusty man stand and draw a rake through the material, back and forth, as each shovelful falls in the centre of the box. Then wet it and mix it up and it is ready to lay. Three inches thick will be enough under horses and cows; two inches in feeding alleys where animals will not go. Use a plank of the right thickness for a gauge to lay by, putting down a strip about 2 feet wide at once. When you move the gauge back bevel the edge of mortar so a good lap will be made Do not trowel the surface down smoothly at the finish, but use last a board float. This, with some fine gravel in the mortar, will give a floor smooth enough to shovel on, and still rough enough so animals will not slip on it. You can roughen a floor made of sand and cement with a stub broom just as it is setting, but it will wear smooth later. This will not be the case where gravel is used. You can make the gutter of mortar, same as the floor; we did. Lay the mortar 3 inches thick in the bottom and then have a form of boards to hold the sides until they set. Then move it along. Round off the corners slightly or they will break off. Keep sun and wind from the floor while it is drying. Sprinkle freely with water as soon as it is done, and two or three times a day for some ten days, so it will dry slowly. It is well to glaze the surface with a whitewash of pure cement and water, put on with a broom, as soon as the floor will do to walk on. Now, common cement is a good while getting hard. Our floor is perfect. But it was built so it had some months to harden before being used. If laying another I should do the same way. If you are in a hurry use Portland cement. I would put the mortar all on at one coat, as described above, however. You can use a smaller proportion of cement. Directions on the barrel will probably tell you how small. It needs an expert to lay 2-coated work, the first poor in cement. I prefer to have the floor good clear through and all laid at once so there is no danger of the last coat peeling off. I had occasion lately to cut out some cement floor in making improvements in our cellar. It was laid twenty years ago, of common cement, 2 inches thick, using one part to three of sand and gravel. Now do you know I had a job? With a sharp cold chisel and a heavy hammer one could hardly make any impression on it. Do a good job when putting in a cement floor and it will be done for more than one lifetime and give the best of satisfaction.

Health Hints. — Getting More Oxygen into the Lungs.—In order to improve health and lengthen life this is undoubtedly one of the great wants of the present day. That is why the matter has been so often brought up of having air in the house as pure as possible. This is good; it is the foundation. Next, we need to gradually do away with some of the causes of shallow, feeble breathing; to get more cubic inches of air into the lungs at every breath. More air breathed, purer blood, greater vitality, better health, longer life. The writer has been working on this problem for years. It is the hardest one connected with health matters he has ever come across. It is easy to get pure air into the house, but the breathing habits of a lifetime, and inherited from generations back, are not readily overcome. One cannot keep the mind constantly on the matter and draw full, deep breaths. Nothing can be done in a hurry. It will take months, often years, of persistent daily effort, to reasonably correct the difficulty. The writer proposes to stick to it until the end is attained. First, he has pure air; then removes every possible impediment to the muscular effort of breathing it. His clothes are all so loose about chest, waist and abdomen that the fullest possible breath that can be drawn will in no degree be restricted. This is helpful and costs no constant effort. Some two years ago he said to himself, why wear any clothes in bed? Why not be natural then? It will cost no work, or money; in fact, it will save some. A night shirt, even if large, is liable to get tightly drawn about one as he rolls over. This may hinder full breathing and check the circulation somewhat. Well, he does not wear one any more. He did not one single night last winter in cold Minnesota. One terrible night he did put one on, but had to take it off before he could go to sleep. This is a fact; such is the force of habit. It took some little time to get used to going without; it would take as long now to get accustomed to wearing one again. I like the plan, the freedom from all restraint, the going back as near nature as possible a part of the day. It makes me ashamed now to think of the heavy under clothes and flannel night gown that I used to wear in cold weather. As I grew weaker I babied myself more and more. But truly I was going blindly along, just drifting, never stopping to study out that it was on an entirely wrong track. The right way, gotten hold of at last, was to increase the resistance and vitality of the body, to strengthen it, not let it gradually go down and bundle it up more and more. Who was it that wrote not long ago that Terry never made any mistakes, or at least they did not remember of his ever telling of any? Do not think I am cold when in bed; I am not, but am warmer than when I used to bundle up so, entirely comfortable, and less cover is needed than formerly.

Next, the writer tried to keep his body in shape, as far as practicable, so it would not retard full, abdominal breathing and motion. This costs little special effort. It is simply giving nature a slightly better chance. Last summer he told you of writing on a board attached to the arm of his chair, so he could sit up straight and not have to bend over a desk. This year he is doing still better. Largely on this account he bought a typewriter, and desk to fit it, and some glasses that are made so he can see the machine best when sitting up perfectly straight in a cane seat chair. See? I must sit up properly or I cannot see. All my writing is now done in this way, sometimes taking six or seven hours a day. This will not be of special use to many, only as suggesting that each one study out points that will help him, or her, in their circumstances. With attention to such points as have been named nature will gradually correct matters a little, and the cost and trouble is practically nothing. But I earnestly advise anyone who has any lung trouble, or any reason to fear any, or whose health is not perfect, to at least use the lungs fully, say 5 minutes every morning. It is a hard thing to do; that is it is hard to stick to it, month after month. I know from experience. But full use, even for a short time each day, tends towards greater vitality and life; lack of full use, to poorer health and death. Hang up a watch where you can see the second hand, standing before a mirror, in pure air, without clothes if it is warm enough. Then slowly draw in air through the nose. Fill the lungs to the utmost, but be ten seconds doing it steadily. Do not even stop a second and then gasp for more, nor hold the breath at all. Gradually throw back the shoulders and head and expand the chest so as to let in all the air you can. When the lungs are full, instantly let the air go out steadily, being ten seconds emptying them entirely; 3 full breaths a minute for 5 minutes. Look at the second hand of watch so you can do steady and uniform breathing. Keep your mind right on what you are doing and what you are doing it for, and the good that is surely coming. Be faithful to yourself and after a year let me know if you are not well satisfied. Do just as I have told you every time. I have an instrument that measures every breath expelled, so when a cubic inch in capacity is gained I know it. This makes it easier to keep at it, that is all. Take into the lungs the last possible inch you can draw in steadily. Pure air, remember, and never hold the breath an instant after lungs are full. Little by little you will increase their capacity and get back to more normal and natural conditions. Nature will make up her mind that you have use for all your lungs and destroying germs will be powerless to hurt you.

The publishers are making a very handsome proposition on page 74 of this number in which every boy and girl who reads the P. F. will be interested. While the Youth's Companion is what its name indicates, we find it just as interesting for the old boys of 50 and 60 years. These 50-name clubs ought to come in with a rush. The P. F. for the remainder of the year at 10 cents is like giving away gold dollars, and any smart boy or girl ought to be able to raise a club in a very short time. The business management is certainly offering great inducements to the young people, and I hope they will take advantage of it.

T. B. Terry.

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Progress of Alfalfa-Growing in Kansas.

Alfalfa has been officially recognized in Kansas for an even dozen years, and during that time its popularity has steadily increased. Prior to 1890 it was not deemed of sufficient importance to be taken notice of in the statistics of the State Board of Agriculture. Now, and for the first time, it has a larger acreage than any other tame grass, its area being over 458,000 acres, according to the sworn returns of assessors now being compiled and tabulated by Secretary F. D. Coburn. Timothy has been alfalfa's leading competitor in area until this year, when the returns proclaim its field is 138,657 acres or 30 per cent. smaller than that devoted to alfalfa. It is an interesting fact also that as early as the fourth year of alfalfa's statistical record (1894) its area exceeded by 24,000 acres that of the clovers for the same year, and each canvass since has shown an increased difference in favor of the former. Indeed, statistics indicate that for Kansas, alfalfa is being found superior, by those who have had experience with them, to timothy or clover. It not only is a perennial legume, of unusual powers of resistance to protracted dry weather, as against timothy and the biennial clovers of less fortitude, but annually yields from two to three times as much feed equally or more nutritious, and is a remarkable soil renovator besides. These facts in large measure account for the marvelous increase in appreciation and sowing of alfalfa, as disclosed by the figures. In 1891, of the tame grasses, alfalfa ranked fifth in area, with 34,384 acres; in 1902, first, with 458,493 acres, a gain of 424,109 acres, or 1233 per cent., and an increase over 1901 of 139,351 acres, or 43.66 per cent.

From 1891 to 1897, inclusive, Finney led all other counties in acreage; in 1898, Butler was the first with 12,029 acres; 1899 Jewell forged ahead with 14,260 acres, which position has been retained with an increased area each year since, having in 1902, 33,976 acres, which lacks but little of equaling the total for the State in 1891. In that year there were nine counties having 1,000 or more acres; this year there are 68; 1891 these fifteen counties had a total of 14,483 acres; in 1901, 159,282 acres, and having over 5,000 acres; now there are 32, fifteen of which have 10,000 acres and upwards, to 33,976 in Jewell. In 1891 these fifteen counties had a total 74,483 acres; in 1901, 159,282 acres, and in 1902, 225,113 acres, a gain over last year of 65,830 acres, or 41 1-3 per cent., and an increase in twelve years of 210,630 acres, or 1454 per cent. This year the combined acreage of the 26 highest ranking counties surpasses the total area for the entire State in 1901.

Alfalfa can be grown in any county in the State, and 99 of the 105 report a greater or less area devoted to this wonderful plant. Eighty-four counties show a total gain of 142,504 acres; sixteen lose 3,153 acres, and five make no change from last year. Among the counties showing the greatest gains in area for the year, and their per cents., are: Jewell, 11, 982 acres, or 54.5 per cent.; Smith, 7,052 acres, or 93.1 per cent.; Republic, 7,063 acres, or 68.2 per cent.; Butler, 5,982 acres, or 38.1 per cent.; Marion, 5,087 acres, or 72.4 per cent.; Norton, 4,950 acres, or 34 per cent.; Decatur, 4.253 acres, or 70.7 per cent.; Greenwood, 3,994 acres, or 48 per cent.; Phillips, 3,979 acres, or 43.5 per cent., and Sedgwick, 3,097 acres, or 36.9 per cent. Even more striking are the showings afforded by the percentages of gain in area in the past year, in these counties: Cherokee, 716 per cent.; Bourbon, 507 per cent.; Johnson, 457 per cent.; Anderson, 373 per cent.; Neosho, 370 per cent.; Allen, 337 per cent.; Franklin, 327 per cent., etc. The following table shows, according to their rank, the present leading 15 counties in alfalfa in Kansas, with their alfalfa acreage in 1902, and also in 1901 and 1891:

Counties	1902 Acres	1901 Acres	1891 Acres
Jewell	33,976	21,994	296
Butler	21,651	15,659	503
Norton	19,351	14,401	442
Republic	17,452	10,389	496
Smith	14,620	7,568	53
Phillips	13,110	9,131	111
Greenwood	12,247	8,253	421
Marion	12,111	7,024	851
Chase	12,106	10,390	1,401
Finney	11,945	12,545	5,717
Wabaunsee	11,751	8,978	1,031
Lyon	11,719	8,871	1,098
Sedgwick	11,496	8,399	1,023
Mitchell	11,314	9,659	880
Decatur	10,264	6,011	160
	225,113	159,282	14,483

Timothy and clover, as hay plants, have been long and favorably known in the agriculture of the United States, and occupy a high and well-earned place in the list of such, wherever grown, and alfalfa, their superior, is a rich acquisition to a region where it flourishes so abundantly. The statistics give indisputable evidence that under Kansas conditions alfalfa is proving to be the most valuable of her forage plants, which in no wise detracts from the well-known merits of others, but emphasizes the desirability of extending its culture in a State where live stock and meat production are chief factors of its prosperity.

Following is a table giving the acreage of alfalfa, clover and timothy, in Kansas, beginning with 1891 (the year alfalfa statistics were first gathered) and each year since, ending with 1902:

Year	Alfalfa Acres	Clover Acres	Timothy Acres
1891	34,384	158,589	498,854
1892	62,583	127,994	576,315
1893	72,500	83,346	577,343
1894	90,825	66,474	536,134
1895	139,878	87,089	464,646
1896	155,949	93,007	355,657
1897	171,334	138,785	347,904
1898	231,548	180,146	330,432
1899	278,477	202,607	320,485
1900	276,008	219,834	317,039
1901	319,142	263,593	333,686
1902	458,493	109,172	319,836

This portrays with statistical accuracy, says Secretary Coburn, the steady rise of alfalfa in Kansas from comparative obscurity to the foremost rank of the State's tame grasses, and suggests the present relative esteem in which they are held in Kansas.

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A Mortgage Instead of Renting.

MRS. F. E. IRVINE.

We found ourselves at the bottom financially. Sickness had broken us up in an Eastern State. A friend procured transportation for us and we found ourselves landed here, with no means, but a chance to work a place on shares "for half," being furnished. It was in the spring and we set to work with a will to do our best. The tax assessor came along and began his questions: "How many horses, cows, hogs, wagons, etc." The reply to each being "Not any," or "None, sir," until he got to the end, then the remark was made "The fact is, Mr. Assessor, I have nothing but a little faith in God, and I believe that is not taxable under the laws of Missouri." The summer passed—our first renting or working for others, and we felt like praying to be delivered from that. We learned of a cheap place that could be secured on time, with no payment down, by putting out some fruit trees to secure the rent for the season. We met the payment, by a loan, and then added to our possessions by another purchase of cheap land adjoining. We were quite a distance from town and desirable associations, and friends blamed us for thus isolating ourselves, saying, "It's better to rent than to have a mortgage on a place." But by carefully planning for the annual interest, we succeeded in going on improving the place and having the satisfaction of working for ourselves. So we say to others: "Better a mortgage (on land) than to rent," with the recurring moves from year to year and the loss and disadvantages caused thereby.

Missouri.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Clover in N. C. Mountains. — R. W. Freeman, Gerton, N. C.—"I have a field in corn which I want to get in red clover. Will it be best to sow, here in Western North Carolina, in fall or spring? My idea was to cut the corn in September, and sow rye and clover together. Or could I sow clover on the rye in the spring? Would it pay to apply acid phosphate to the rye where I sow clover? I am experimenting with the Whippoorwill pea, but we fear we are too high in the mountains for them to do well." If you can get the land in order to sow the clover early in September we believe that you will have perfect success in the fall sowing, as it will then, in a favorable season, get strong enough to pass the winter. Even if the fall sowing should fail you will still have an opportunity to sow on the rye in the early spring, selecting a time when the ground is honeycombed with frost so that the thawing will cover the seed. It will pay you well to apply 300 pounds per acre of acid phosphate to the rye. We would sow the rye first and then sow the clover seed and run a light smoothing harrow over. We hope that the coming of warmer weather may make your peas a success, though in your mountain section the nights are apt to be rather cool for the cow pea.

Hauling out Manure. — T. Mendenhall, West Elkton, O.—"I have a large quantity of manure to haul out this summer. Have no wheat ground to put it on. Have black, loose land for corn next season, but it does not need the manure as much as some other land of a clayey nature. I have a clay field of young clover, well set. Will it be well to manure the young clover, as I have a manure spreader, or should I put it on the black land for corn." If the loose, black soil that is to go in corn next season was now in sod, we would put the manure there. While it will certainly help the clay soil where the clover is, the application of a nitrogenous manure will prevent the clover doing as much nitrogen fixing from the air as it would. If applied lightly and evenly with the manure spreader to the young clover it may answer very well. But we always prefer to give the corn field the first show at the manure pile, as its cultivation prepares the land in the best manner for the small grain. Or if you have a meadow from which the hay has been cut you need no better place for the manure.

Permanent Pasture in Va. — G. H. Gilmer, Draper, Va. "I have a 39-acre field, 15 of them from which wheat has just been harvested, 8 in oats and the remainder in cow peas. I want to get the whole in permanent pasture. How had I best do it? This is a blue grass section, and our farmers usually sow timothy and clover, and the land finally takes in blue grass. I have another field with a good stand of timothy, but the clover sown this spring was all killed by the drought. Is it possible to get this land in clover without plowing again? Want to mow it a year and then use as pasture." I would prefer to use a stronger rooting grass in the pasture than the timothy. One of the best hill pastures I ever made in Virginia was sown heavily with orchard grass, red top and blue grass. The blue grass is the slowest of the three in getting established, and the clumps of orchard grass shelter it and help it to get started, while the red top starts at once and soon gives way to the others on high land. After the peas are harvested I would prepare the land well and seed 10 pounds of orchard grass seed, 5 pounds of red top and 10 pounds of Kentucky blue grass per acre, and after sowing this mixture would scatter 5 pounds per acre of white clover seed and harrow lightly with a smoothing harrow. I fear that it will be hard to get red clover on the timothy sod. Have never tried sowing it among grass, but have time and again had very good success in sowing crimson clover seed among the grass. It may possibly be that the red clover seed would also catch there. But the crimson clover, sown in August on the timothy will probably catch well and will help greatly in the hay crop next spring if cut alone. But it will be all dead by the time the timothy is ready to cut, so probably the only thing you can do is to experiment in the same way with red clover seed. Sown just before rain in August you may possibly get a catch. At any rate the experiment will be worth trying, and we would like to hear the results if you do so.

Nut Grass. — J. H. Taylor, Townsville, N. C.—"I enclose a species of grass called nut grass here. A small patch appeared in my garden 25 years ago, and has now taken almost complete possession of it. It grows as well in the walks as elsewhere, and I have found it 18 inches deep in the ground. I want to know how to get rid of it." You should have taken it in hand 25 years ago when it first appeared. The so-called nut grass is not a grass at all. Botanically it is Cyperus Rotundus, variety Hydra, and hence belongs to the sedge family. What we commonly call broom sedge in the South is not a sedge, either, but is a true grass. Nut grass is a very pestiferous weed in the South. Three years ago we took possession of the old garden where we now live. Like many other old garden spots the nut grass had been allowed to take complete possession. There is some there yet, but it is no longer a pest to any extent. Most people imagine that nut grass comes entirely from the tubers or nuts formed on the roots. Of course it does grow and spread from these, but it increases far more rapidly by being neglected and allowed to bloom and seed, for it makes an immense lot of seed in the fall, after many people stop keeping their gardens clean. There is no way to banish nut grass from a garden but by keeping everlastingly at it. No plant can long survive if its tops are persistently destroyed, for the leaves are the lungs of the plant, and if it is not allowed to breathe above ground, the underground roots and tubers will certainly die. During this hot and dry weather we have had a man chopping at the nut grass in beds and walks and as we look from the window the garden shows clean, where a year or so back it was a meadow of this sedge. It is very persistent, and if you are not persistent, too, it will inevitably get the best of you, for chop it off today and tomorrow it is up green and smiling again. But keep at it and you will conquer as we are doing. Never allow a single plant to go to seed in the fall. Keep the garden clean until frost, for the first frost stops it until warm weather comes in the spring. If the garden is kept persistently clean all summer, and crops are planted in succession as fast as others give out, there are no weeds that can survive long. But it is of little use to chop it out of the beds if you let it grow up and seed in walks.

Fertilizer Mixing.—J. L. Cheek, Gath, N. C. "Please tell me something about mixing fertilizers at home. I have been using 13 per cent. acid phosphate, costing about $15 per ton. What I want to know is, what the bulk of that mixture is, and what it will cost me to make the same grade of fertilizer at home. I want the mixture for wheat. Will a higher grade pay better on stiff gray land not following peas or clover? How much could I profitably use per acre, and where I can get the materials nearest? We are sowing peas and clover and trying to improve our land. Please give me all the information you can on this subject." Acid phosphate is not a "mixture," in the sense of having its ingredients artificially put together. It is simply the result of the chemical action of sulphuric acid on pulverized phosphate rock. It is treated in this way in order to make the phosphoric acid in it soluble and available to plants. The 13 per cent. represents all the phosphoric acid in it, and, of course, this means that there is 87 per cent. of something else to make up the bulk. Of these matters about 40 per cent. is sulphate of lime or land plaster as it is called. This is not put in it, but is the natural result of using sulphuric acid on the phosphate of lime, so that much of the lime in the rock is changed into a sulphate. The remainder is earthy matter that made up part of the rock. Acid phosphate is one of the materials we commonly use in the home mixing of fertilizers, and it cannot be made to any extent profitably on the farm, as extensive buildings and apparatus are needed. But you should be able to get it for less than $15 per ton, as it was about $10 in Raleigh, your nearest market, last fall. If you use a good rotation of crops and always have peas preceding your wheat you will need on your gray soil only acid phosphate and potash. But without the peas you will need a complete fertilizer for wheat. This can be made by mixing 1,200 lbs. of acid phosphate, 600 lbs. of cottonseed meal and 200 lbs. of muriate of potash to make a ton. Of this use not less than 300 pounds per acre for the wheat crop. But on your Orange Co. land, by good rotation and good plowing and cultivation you should soon get independent of any fertilizer but the acid phosphate and potash, and on red land you will not even need the potash much. Grow forage and feed stock and raise all the manure you can, and thus gradually get independent of the fertilizer factory. You can get the materials in Raleigh as easily as elsewhere.

Trouble with Cucumber. — George Dickson, Conway, S. C.—"I enclose a root of one of my cucumber plants. It looks as if it had club root or something of the sort. I had an acre and a half which made good vines but no fruit. Can you tell through the P. F. what the trouble is?" There are some indications of nematodes or eel worm in the roots, but not enough to damage the plants to extent you say. Were they not attacked by borers above the ground? We think this more likely than anything else. The only trouble we can find on the root sent is the few swellings apparently cause by nematodes.

Cow Peas and Soil Washing.—A correspondent who has bought a farm in Tennessee, says, "There is some prejudice among some of the farmers in Middle Tennessee I have talked with about cow peas, because they claim they cause their land to wash badly. How can this be avoided? Do you advise farmers to supersede clover with cow peas where clover thrives?" Of all the absolutely silly objections to the cow pea, the notion that they make land wash is about the silliest. We heard it first at the Farmers' Convention in Knoxville, where one speaker made this objection. He said that the peas lightened the land so much that it washed badly. The hill lands of the South have washed more for lack of peas than by reason of their growth. Shallow plowing and the using up of the humus in the soil by constant clean culture have caused the gullied hillsides, and there is no crop grown that will tend more towards checking the washing than the pea. Ask one of these men, who think the pea causes the land to wash, if he ever knew a piece of freshly cleared land from the original forest to wash. And yet it is lighter and looser than the pea will ever make any old land. The more peas are grown and the more vegetable matter you get into the soil the less the tendency to wash, provided you break the land well. A hillside that is scratched over with a Boy-Dixie plow and a little mule, breaking the land about three inches deep, will get full of water when the heavy floods of the South come, and will inevitably run down the hill, because that is the only way it can go. But if that red hillside is broken with a big plow, with three good mules abreast, and a subsoiler loosens it still deeper so that there is 15 to 18 inches of loosened soil, it will take a real cloudburst to start a wash on it. Then if you get the pea roots all through that deeply broken soil, you will still further reduce the liability to wash. The way these erroneous notions get common among a farming community is one of the most curious studies in human nature. They generally start from someone saying so without due consideration, and at once the word goes out through the neighborhood that Mr. Smith says that cow peas made his land wash. Then, having confidence in Mr. Smith, not one of them investigates the matter for himself, and, like many another error, it comes to be the popular opinion. If you want to prevent your land from washing, break it deep and get it as full of humus as you can with pea roots, clover, vetch or any other legume that suits the soil and climate. There is no better time for deepening the breaking of the soil than when preparing for the peas that are to be followed with wheat, for if the deep breaking is done then, there will not only be less liability to wash in the summer rains, but the stubble will be in the best condition for the wheat without re-breaking late in the fall, but simply fining the surface and keeping the stubble on top. Now as to clover. As we said to our talking friend at Knoxville, we have no objection under the sun to clover. Use clover by all means if it thrives with you, and put your peas among the corn as a help to getting the land in clover with the wheat. Stand by the clover so long as you can succeed with it, and be ready at all times to use the pea where it can well come in as a help to clover. But in bringing up land to the best production of clover there is nothing in the South that equals the cow pea, and over the greater part of the South it is of far more value than clover ever can be there. Clover fails in Tennessee mainly because the pea has been neglected as a means for restoring the land for clover, after they have run it down to a condition where clover no longer thrives. All over the beautiful valleys of East Tennessee and Middle Tennessee clover should thrive, and that it does not thrive is evidence of bad farming, for it did once thrive well.

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Goodell Company, 50 Main St., Antrim, N.H.

FORAGE

FOR LATE SUMMER AND AUTUMN.

I cannot too strongly urge upon farmers the importance of sowing some cow peas or soy beans during the month of July. If the ground be properly fertilized there will be a fine growth of valuable forage before the coming of frost. This forage can be fed green or cured for hay.

COW PEAS

and soy (or soja) beans are highly nutritious, being fully equal to clover for producing milk or making flesh. They are leguminous or nitrogen-collecting plants, leaving the soil richer than they found it. They need a fertilizer containing phosphoric acid and potash, and such a fertilizer costs but little money. Cow peas and soy beans will pay handsomely, whether fed green or made into hay or plowed under for green manuring purposes.

Whip-poor-will Cow Pea. I especially recommend this variety for the North. It is a quick-maturing bush sort.

Black Cow Pea is a trailer, but it matures so quickly that it may be planted North or South.

Wonderful (same as Unknown). I recommend for the South. It is a trailer, yielding an enormous amount of fodder, but not maturing as quickly as others.

Price of either of the cow peas, per peck, 60 cents; per bushel, $2.25.

SOY BEANS

are quite as valuable in all respects as cow peas, and may be treated in the same manner, using the same amount of seed per acre. I sell a strong-growing, upright or bush sort which makes a quick growth.

Price of soja or soy bean, per peck, 75 cents; per bushel, $2.50.

Sow broadcast or in rows; 1½ bushels broadcast or 1 bushel per acre if sown in rows 3 feet apart. Sow before end of July, the earlier the better.

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YOU WANT WATER and you want Money. There is a way to get both by using our late improved Well Machinery—the most profitable business for men of moderate means. Address for catalogue LOOMIS MACHINE CO., TIFFIN, OHIO.

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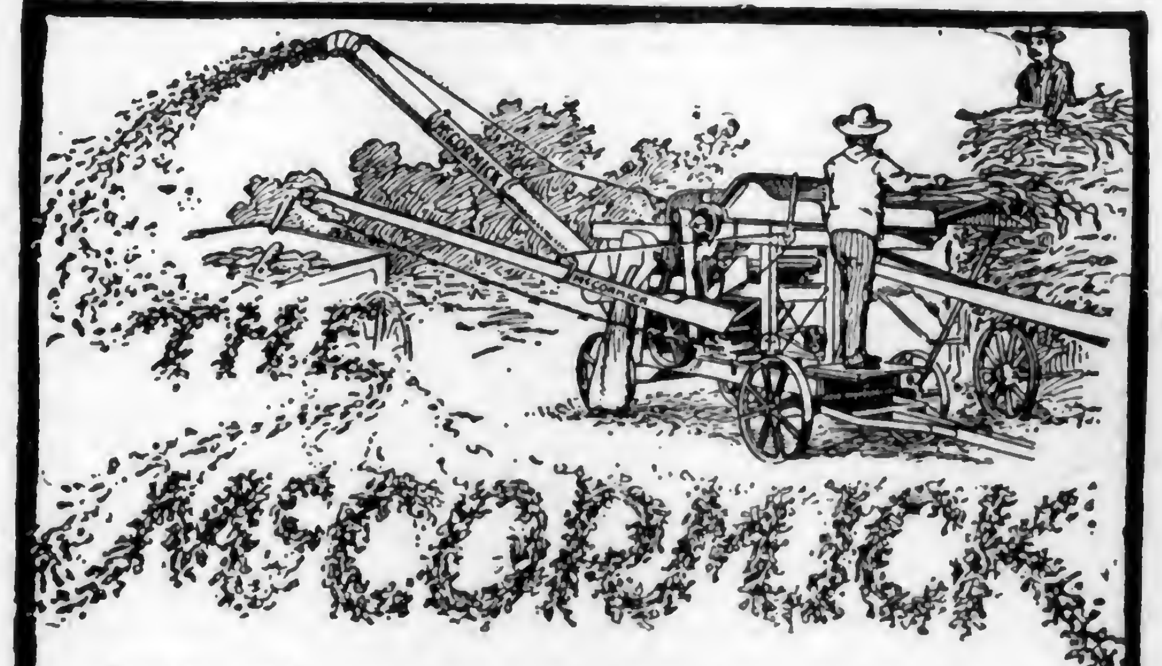
DOWDEN Potato Digger. Deep or shallow, you get them all, fast, clean and unhurt. Standard digger with no peer, and it lasts. Ask for free Dowden book. DOWDEN MFG. CO., Box 29, PRAIRIE CITY, IA.



husker and shredder is a "Little Giant" when it comes to considering the amount of work it will do in a day. Every corn grower can well afford to own the McCormick "Little Giant" husker and shredder. The machine has capacity enough for several farms where two or more want to join together in the purchase. The stover from the McCormick is relished by the stock.

O. H. BROWNING,
General Agent
for McCormick Machines,
Philadelphia, Pa.

Live Stock and Dairy.

If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

"Go West, Young Man."

DR. GALEN WILSON.

Such was good and timely advice when Horace Greeley uttered it. But since then a great change has come over the entire country and that advice is obsolete, and "Go South, young Man," would be more appropriate and pertinent. At that time the great grain fields of the West, and the remoter grazing ranges of the far West, were the absorbing idea as offering unsurpassed inducements to the husbandman. The most prominent feature in this program was to grow grain to ship to Europe, after our own wants were supplied. The growing of stock then seemed to be a minor object, and the sending of stock and their products abroad was in its infancy. Meantime the world has moved as it never did before. Most of the unoccupied grain lands of the great West have been settled upon and improved, and grain production has reached mammoth proportions, while the cattle ranges are nearly all covered with lowing cattle and bleating sheep. Indeed, there is not now room enough for all of them as witness the recent and oft-repeated reports of conflicts between the cattle and sheep men, the former claiming that the latter are encroaching upon their grazing rights—rights only by priority of occupancy, and this without governmental warrant. So far has this conflict extended that thousands of sheep have been ruthlessly killed by the cattlemen driving them over precipices bordering the numerous canons along their feeding ground. This surplus stock on the ranges is not in consequence of their natural increment or growth, but because of the fact that so much of the range territory has been entered and settled upon by farmers who till the soil, that necessarily it has to that extent restricted the amount of public grazing lands. As actual farmers occupy the public lands the range stock must continue to move back and back. This has been done to such an extent that either the sheep or the cattle — perhaps both — have "slopped over" in places, and hence the sheep and cattle warfare. All states and territories containing large ranges or adjoining them have been settling their public lands, and the aggregate so settled has sent millions of stock to seek "pastures new." The rate at which the ranges have been settled by farmers may be judged by the example of Texas. The last census report states that during the decade intervening between 1890 and 1900, over 100,000 farms were parcelled out of the public domain of Texas and settled upon. Probably nearly all of the Western and Southwestern States and territories were settled in like proportion. No wonder that this made a scampering of range stock. This is what caused the great influx of sheep into Montana, which now has more sheep within its borders than any other State or Territory in the Union. The number by the last census was 6,170,580. And for the same reason New Mexico is a good second with 4,902,547. Idaho comes next with its 3,122,576. These three States now have large ranges; but as settlement increases, range cattle and sheep will continue to move until there is no place to move to. And this brings us right square to the point which is our ultimate destiny, and that is, all live stock must be grown on farms. The range business is about "done for," and well for the country that it is. No nation yet ever prospered to the fullest extent where tillage of the soil and the live stock industry did not go hand in hand. Man and the domestic animals were designed to exist together. Man needs them as his servants and helpers, and they furnish him food and clothing. They need the help and protection of man. They cannot prosper in a wild state. What was man given "dominion over the beasts of the field" for if it was not to exercise it? Does not this pre-suppose everything else, that man will both exercise it and properly care for the animals and incidentally get his reward for it in service, food and clothing? Growing grain alone and selling it off the farm always depletes the soil. This has ever been the custom in the Eastern States until now much of the soil is worn out and abandoned. Right in my neighborhood —this once boasted section for fertile farms in Central New York—there is farm after farm that has been abandoned for its poverty. So along to Western New York, then into Ohio and along to Indiana, Illinois and across the Mississippi and thence I do not know how far, farms are beginning to be less and less fertile and because of the ruinous practice of grain farming and shipping the grain away. All know there is comparatively much fertility in grain, and farmers have been selling their farms by piecemeal; but they did not seem aware of it. They "stole their own horse," and now they may go and "lock the stable door" if they choose. He who farms it and does not keep stock enough to consume his products is doing a losing business. Grow stock, fatten them, properly save and utilize the resulting manure and sell off the farm only the finished meat, is the only way one can keep up the fertility of his farm. When one sells off a crop of meat, that very meat when alive left sufficient fertility on the farm to make another crop of meat; but when one sells off the grain, he is doomed sooner or later, for he has "killed the goose that laid the golden egg." He has scattered the fertility of his farm about New York, Boston and all over the continent of Europe and the British Isles. Now to the man who may think of going West, Mr. Greeley's advice does not seem the right thing to do, does it? But what better can a man do who wants a bit of land to make himself a home? I say emphatically, "go South." Only think of what a breadth of territory there lies between the Ohio River and Gulf of Mexico, and between the Mississippi River and the Atlantic Ocean, and this but sparsely settled. All know why this is. Up to the time of the war between the States was settled, there was a wide gulf between the North and South. They were as two peoples, distinct and separate. There was no amity of feeling between them and scarcely any intercommunication. Now that is happily all past and cursed be he who would try to perpetuate any animosity. There is no difference now in the treatment accorded individuals when they move to one side or the other. The planters of the South were addicted to having large plantations, embracing perhaps thousands of acres. Now they find themselves with too much land. The owners of lands of forty years ago are nearly all dead. Estates must be sold to settle with the heirs. There cannot be a more salubrious climate. The farmer can labor in the fields the year around. There are never any severe droughts. The rainfall is just right to make good crops. It is a curious fact that the rainfall is greatest in the lower South. At the Alabama Experiment Station it is 66 inches annually, and this tapers off to the Northwest towards Utah, where I believe the annual fall is about 14. With me up in this latitude it is about 40. The proximity to the Atlantic and the Gulf settles the question of sufficient moisture for the South. Now as to the soil. The crop has been mainly cotton, cotton, cotton. Many fields have been abandoned as unproductive. Now let us see about this. "Sambo" didn't exactly "plow with split sticks," but he did plow with one mule or a steer and a little "bull tongue plow" with a wrought-iron point. With such a team and plow he could only scratch the surface two or three inches in depth. Cropping would soon exhaust the fertility to that depth and then the land was suffered to grow up in broom sedge and pines. Now I do know that a red clay subsoil generally prevails there, and when that is turned up to the depth of 8 to 12 inches with a modern plow and team and then well weathered and tilled, it will grow large crops of anything suited to the location. Men who have gone there and purchased farms at my instance uniformly tell the same story. And then to think how near the large market cities of the East one may get a location in Virginia or North Carolina. It is comparatively but a step to New York, Philadelphia and Washington by rail or boat. In Tidewater Virginia (embracing 30 counties), and along down the coast of North Carolina, there is always good fishing for salt water fish, oysters and clams. Such lands can be bought for around $10 an acre, usually with a residence and outbuildings on it. Good water, schools and churches. Not many substantial fences, but plenty of timber to build them. Just how best to put this land in "apple pie" order, I would refer readers to Prof. Massey's excellent work in "Crop Growing and Crop Feeding." He is on the spot and knows just what should be done. The book can be had of the P. F., price $1.00. I will add, as if in trumpet tones, do not undertake general farming without stock to consume what you grow. It is high time that the fertility-exhausting process of farming should be abandoned. But this is also a fine gardening section. That might change matters some. But trucking is not very exhaustive of the soil.

Tompkins Co., N. Y.

[The Editor would like to add a few words to what Dr. Wilson has so well said in regard to where a young farmer should go. The South offers many advantages to young and energetic men who desire to better their condition and to farm in a more genial climate. But low priced land is not the only thing to be considered in making such a change. Very much of the land in the South has been run down, not exhausted by any means, through a long course of soil robbery and shallow plowing in which all the immediately available plant food in the shallow plowed surface has been sold off, and no live stock has been kept and no forage grown for them to any extent over all the cotton-growing section. It is the system and not the crop that has done the damage. Northern men going to the cotton country, as a rule, fail to realize that in the farming there cotton is of necessity the money crop, and seeing the way in which the cotton lands have been run down, they at once assume that cotton has done it, and they determine not to grow cotton. And right there they make a great error. It is not cotton, as we have said, but the system, or rather the lack of system in the farming for cotton. There is no farm crop in the cotton belt that can compete with cotton in profit if the land is farmed for cotton, and the keeping of live stock and the growing of feed for them is not neglected. There is no crop produced in this country that fits in so readily in an improving rotation as the cotton crop, and there is none in which the keeping of stock tends more to the development of the money crop. When the farmers in the cotton country of the South Atlantic coast instead of feeding one steer to every three bales of cotton produced, feed three steers to every bale of cotton, they will make money in beef and dairy products and will grow more cotton on fewer acres. "Go South, young man," but remember that cheap land is not all that is needed. The great difficulty now in the cotton country is the fact that nine-tenths of the men who are growing cotton have no capital invested at all, but are being carried over at an enormous percentage by merchants who own the cotton when it is grown. Therefore some capital is as necessary for success in the South as it is in the North, and there is nothing that will keep a man's nose to the grindstone harder than a piece of poor land without the capital to improve it.—Ed.]

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Take Your Choice.

When you Buy a Tubular you know you have a separator that thousands and thousands of dairymen have pronounced to be the best in the world. They are not like other separators; they are more convenient, more durable, more simple, safe and efficient. If you want us to show you this difference write for catalog 129.

The Sharples Co., Chicago, Ill. P. M. Sharples, West Chester, Pa.

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Plymouth Cream Extractor is the CREAM of them all. Inner can quickly removable; water all around and under milk; has far greater cooling surface than any other. No water required 5 months in year. Special air chamber with ventilator. New and original faucet, impossible to leak or sour. *Express charges prepaid.* Catalogue free.

Plymouth Cream Separator Company, Plymouth, Ohio.

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The De Laval Separator Co., 74 Cortlandt St., N.Y.

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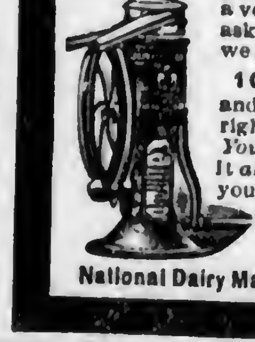
The leading cream extractor on the market because milk and water are not mixed, you always have pure sweet milk for house use and not diluted for feeding. The most convenient extractor made for handling your milk in winter as well as in summer. It saves all can lifting, skimming and washing of crocks. Write for descriptive catalogue and special introductory prices to

The Arras Cream Separator Co
Bluffton, Ohio.

Pat. May 21, 1901.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with a National Hand Separator and make more and better butter from same quantity of milk. The National will do it easier, quicker and pay its cost in a very short time. We don't ask you to take our word—we send the machine for

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Costs no more than inferior machines
Gets More Cream out of the Milk
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For Western customers, we transfer our separators from Chicago, LaCrosse, Minneapolis, Sioux City and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt. 305

Stock Queries.

Alfalfa.—Joseph S. Garness, Kaupo, H. I.—"In regard to feeding alfalfa hay to horses, I think the almost universal verdict among horsemen in Central California was that it was of no value for team horses. When choice alfalfa hay was $8 or $9 per ton, barley or wheat hay was fed in preference when the price of the latter was $14 to $16 per ton. For sheep, cattle and hogs it was highly valued but not for work horses."

Swine Query.—I write for information concerning hogs. I have some three-fourths Poland-China sows which have been bred to a thoroughbred boar, or supposed to be at least, and only have from 3 to 8 pigs at a litter, and but two litters in 12 months. Principal feed in winter, corn, summer, wild grass, Bermuda and peas. Now what I want is a boar from a prolific stock. Would you advise a cross with Duroc-Jersey or large English Berkshires? What about the Yorkshires? J. A. W.

Mulberry, Ark.

(*Reply by Prof. A. M. Soule.*)

Possibly you have kept your Poland China sows too fat for them to be as prolific as you desire. Corn alone is not a satisfactory food for breeding animals, as there is a tendency to produce too much fat, which effects the organs of reproduction and makes the animal sluggish and disinclined to breed. If you will feed two-thirds cracked wheat or one-third each of cow peas and soja bean meal with one-third corn, you will likely find this ration more satisfactory for your breeding animals. Give them also all the rich kitchen slops and skim-milk available on the farm. Your summer ration of wild grass, Bermuda and cow peas is all right provided they get enough grain to keep them in a growing condition all the time. You must remember that a sow carrying a litter of young pigs must be well nourished and it may be that a small amount of corn and cracked wheat added to the ration would be a great advantage. The Duroc Jersey is said to be a very prolific breed, more so in some respects than the Poland China or the Berkshire which have been fed rather extensively on corn in some sections of the Middle West and their breeding powers impaired. There are some strains of Berkshires and Poland Chinas that are quite as prolific as any other breed, and it may be that you do not happen to have animals from these strains. It is possible that a cross of the Duroc Jersey on Poland China sows might increase their prolificacy, though if they bring you two litters a year with 6 or 8 pigs they are doing very well. When very large litters are secured the hogs are sometimes inclined to be coarse and the young ones weak.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Indigestion. — My mare seems to have her bowels in bad order. When driving her she passes wind constantly, kind of bad smell, with her bowels running more than usual. I was feeding her with about three quarts of shelled corn in the morning and fresh clover hay and about four quarts of shorts mixed with cut clover hay, and shocks each time for dinner and supper, and some hay extra. Lately I lessened the grain ration somewhat without seeing any improvement. The horse has to do but little work, mostly in buggy or under saddle. A. STALLING.

Candler, N. C.

Food used is causing indigestion and we do not wonder, for corn is quite unsuitable in warm weather and nothing is more apt to disagree than fresh clover hay, which is usually slightly heated by standing an hour or two. A change of food should promptly improve matters unless condition is of long standing. Give one pint of raw linseed oil and an ounce of turpentine. Follow with a tablespoonful of a mixture of equal parts powdered wood charcoal, baking soda and hydrastis canadensis in food twice daily and allow rock salt to lick. Always give the drinking water before and not soon after feeding and endeavor to work or exercise the horse every day. Ground food should not be given to horses unless they are old and have bad teeth so they cannot masticate. Feed sound, old oats and prairie hay.

Lameness.—We have a fine Percheron 17 years old, that became lame suddenly this spring in right forefoot, and has been completely laid up ever since. Has been out to pasture and keeps in good flesh, but her lameness is no better. Following is a description of symptoms and the treatment given her. For two weeks or more after she first became lame she seemed to suffer a great deal of pain, lying down a good part of the time, and while standing continually throwing the foot forward and sliding it back, resting on toe. The only tender spot we could find was located just above the coronet ring. Thinking possibly that something had entered the foot, such as a nail or gravel, we poulticed the foot every day or so for ten days. This apparently had no effect whatever. Since then have applied fly blisters at frequent intervals. In addition have soaked her foot in as hot water as she could stand, and given the whole leg vigorous rubbing. Have gently stretched the leg and given the foot a rotary motion. At the present time there is a slight enlargement clear around the coronet band. Some of the time she walks without favoring foot much; then again is as bad as ever. CHILCOTT BROS.

Orchard Park, N. Y.

Treatment has apparently been sensible. We would suspect in such a case deep-seated pus at seat of corns, so that hoof should have been pared down and pinched, then if patient flinched would open through sole to liberate pus, and afterwards treat with hot antiseptic baths and dressings. Enlargement around coronet is due to repeated blistering. We are unable to decide what is the present cause of lameness.

Distemper.—One of my horses has distemper. Give cure and how to prevent the other horses from getting it.

Holstein, Neb. LAWRENCE ZUBROD.

We cannot give advice unless full description of symptoms of a typical case are furnished. Many different troubles are termed distemper by farmers. Write again, giving such description, and meanwhile separate sick from well. Clean up, disinfect and whitewash.

Leucorrhoea.—I have a mare 9 years old, generally healthy, but seems to be troubled with "whites." Shows more in spring and summer than at other seasons. Never pregnant, but always positively refused to stand for the stallion. This spring she has, at intervals, sore eyes, discharging water copiously, when out to grass; also a thick, white deposit in eyes that works out onto the lids. C. J. PULLEN.

Pawtucket, R. I.

Flush out vagina once daily with two gallons of milk-warm water in which dissolve half an ounce of tannic acid. In a week change to 2 per cent. solution of permanganate of potash if not doing well. Cover eyes with soft cloth kept wet with a solution of one drachm each of powdered sulphate of zinc and fluid extract of belladonna leaves and half drachm of carbolic acid in a quart of clean soft water. Keep her in darkened stable and feed on light diet. Twice daily give her one ounce of a mixture of equal parts fluid extracts of ergot and hydrastis canadensis. Eyes sometimes become infected when mare has vaginal discharge.

Probably Gloss-Anthrax. — There is a strange malady affecting cattle here that I would like some information about. People who have examined them pronounce it worms in the tongue. It is some affection of the tongue. When affected they refuse to eat and run about and bawl until too weak to run then fall and lie until they die or are killed. Some have been saved by scraping their tongue and rubbing it with salt, with others it does not seem to do any good. The cattle are running on good pasture and were doing well until affected.

Madisonville, Tenn. T. F. WILSON.

We fear that this is gloss-anthrax, which is contagious and fatal. It kills promptly, as a rule, and change of pasture and inoculation against anthrax is the only hope of prevention. In this disease the tongue becomes red, purple or black and covered with blisters and ulcers. Animal usually dies in from 24 to 48 hours. If this is not the case we suspect that the cattle may be rabid from the bite of a mad dog. It is very evident that an investigation should be made upon the spot by the veterinarian of the State Experiment Station or State Veterinarian if you have one in your part of the country.

◆

Something Farmers Ought to Know. —Every farmer, dairyman and stock owner will be interested in the following letter which was published in the Jersey Bulletin:

In compliance with your request in the last number of The Jersey Bulletin, I am going to give you a little of my experience with calf scours. About three years ago my brother and I had an average of about 80 cows in our dairy and were losing a large percentage of our calves. For a time we probably lost one-quarter of them, although we used a great many different remedies and tried nearly everything recommended by other breeders through the different stock papers. For the past two years I have been using Hood Farm Calf Scour Cure and Digestive Powder, which is advertised in your paper, and with me it has given better results than anything I ever tried. I have not lost a single calf from this trouble for over a year, although I have had plenty of them sick. I keep my calf pens dry and clean, and bed liberally; when the weather is fit the doors are left open to allow the calves to get plenty of fresh air and sun. For the first month I feed three times a day, and if the calf is inclined to be delicate I occasionally give it a teaspoonful of the powder without waiting for it to get sick—it helps to keep them well. Upon the very first indication of trouble I give the medicine without waiting until the calf is weakened. I wish abortion was half as easy to cure as calf scours.

Spokane, Wash. D. C. DILWORTH.

Hood Farm Calf Scour Cure and Digestive Powder are each put up in two sizes—$1 and $2.50. Express prepaid, 25 cents additional. Large size of both prepaid to any railroad express point in the United States for $5. Address C. I. Hood Co., Lowell, Mass.

Used Ten Years

For Spavins, Ringbone, Splints, Curbs, and all forms of Lameness, bunches or bony enlargements.

Washington, D. C., Nov. 20th, 1902.
Dr. B. J. Kendall Co.,
Gentlemen:—Please send me a copy of your "Treatise on the Horse and his Diseases." We have used your Kendall's Spavin Cure for ten years and gladly testify to its merits.
Yours truly,
JUSTUS C. NELSON.

As a liniment for family use it has no equal. Price $1; 6 for $5. Ask your druggist for KENDALL'S SPAVIN CURE; also "A Treatise on the Horse," the book free, or address

DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

A dollar in time saves nine,

when you ward off Contagious Abortion by using the standard remedy CHLORO-NAPTHOLEUM DIP. The surest germicide known. Kills all germs, mange, itch, ticks, scabs, lice, on all live stock—keeps off Flies—invigorates the stock. Sure preventive of hog cholera. 1 gal., $1.50; 5 gals., $6.75; 10 gals., $12.50; freight paid. The West Disinfecting Co., Inc., 15 E. 59th St., New York. Booklet free.

Chloro-Naptholeum DIP

Leg and Body Wash.

Race horses often become sore and stiff from continued strain on the hard tracks. Nothing takes out this stiffness and soreness like a wash compounded of diluted

Tuttle's Elixir

apply to the legs and put on light bandages. Sponge the body and put on light blanket. Guaranteed to produce desired results or money back.

Readville Trotting Park, Mass., March 23, 1900.
Dr. S. A. Tuttle, V. S.
Dear Sir:—I have used your Elixir for the past ten years, in the diluted form for a leg and body wash. I consider it the best wash for keeping horses from soring up. Horses done up with this wash are much less liable to take cold than when done up with witch hazel or any other wash I ever used. J. H. NAY.

Our 100-page book, "Veterinary Experience," FREE.
Dr. S. A. TUTTLE, 28 Beverly St., Boston, Mass.
Beware of so-called Elixirs—none genuine but Tuttle's.
Avoid all blisters; they offer only temporary relief if any.

TRY AN AMERICAN CREAM SEPARATOR.
It costs you nothing to try it. Catalogue free for the asking.
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GOMBAULT'S CAUSTIC BALSAM.
Sold by Druggists and sent by Express.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Young's Anti-Abortion Food for Cows is the recognized remedy by the profession in this part of the State, and is rapidly becoming known as the invaluable agent of relief all over United States. After a trial it is its own recommendation. Write for particulars. Young's Food Co., Media, Pa.

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Swine V, Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price $1.50. Send $1 for trial. If it suits, send balance. Pat'd May 6, 1902. Hog and Calf Holder only 75c.
FARMER BRIGHTON, FAIRFIELD, IOWA.

Work Horses

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Bickmore's Gall Cure.

Cures while you work him of all Harness, Saddle or Collar Galls, Scratches, Cuts, Cracks, etc. Sold everywhere by dealers. Guaranteed. Money refunded if it fails. Sample mailed for 10 cents.
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Good News to Stock Owners

Just the information that you must have to successfully treat Fistula, Poll Evil, Sweeny, Knee-Sprung, Curb, Splint, Spavin, Ringbone and all blemishes hard or soft, also Lump Jaw in cattle.

Bone Spavin—Ringbone—Lump Jaw

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IT MAKES COWS BREED.

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Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Money in a Modest One-Acre Garden.

W. E. H.

While there is always ready sale for almost any kind of fresh garden stuff, I think that certain vegetables and fruits take precedent over others in all localities. What would perhaps find ready sale here with us would not sell so well in some of our larger towns, they being supplied from the Eastern markets, which, during a good season are more or less "glutted," and the article cheapened thereby. Should our produce mature at about the same time, it would only increase the "glut" and bring very poor returns. Those who garden for profit should study the necessities of their market, and endeavor to raise what is most sought after in that particular neighborhood.

We are located in the western part of Allegany Co., Md, in the heart of the Georges Creek mining regions. Our elevation above sea level is between 1,800 and 2,000 feet. This elevation, of course, makes a late spring and an early autumn, narrowing down the growing season considerably, and some of the later fruits and vegetables will not always mature. Late grapes would be very unprofitable, and lima beans would be the same, as there would be no certainty of their maturing. Yet we do raise some excellent limas here. We had quite a fine lot last season, somewhere between 60 and 75 quarts. Yet this cannot be depended on. The present outlook for this toothsome vegetable is not very promising, on account of the cool, wet weather which has prevailed for the last three or four weeks. To be successful with this vegetable here the very earliest varieties must be planted. Seibert's Early and Burpee's bush are good varieties. I have never tried Maule's Panmure, but intend doing so next season. These beans have a ready sale, bringing from 20 to 30 cents per quart, shelled out. Our section is engaged exclusively in mining. Very little attention is paid to agriculture. Money is made much easier in the mines than on the farm, consequently farming is at a low ebb. There is ready sale and good prices for all kinds of fruit and vegetables in season, which are principally supplied from Eastern markets (Baltimore), which are about 200 miles distant, and the goods are not in the best condition when they reach us.

Lettuce and green onions would be money makers in some localities, providing they could be gotten into market early enough. For this reason I am inclined to think that they would be unprofitable here, as the Eastern market supplies us with these long before the snow has left us, and most people are tired of them before our crops are fit to use. My gardening is unpretentious, and is confined to a modest one acre. The work is done after my regular working hours (as I am engaged elsewhere during the day), and for the pleasure derived therefrom. Yet there is considerable profit derived, and I consider myself amply repaid for my labor by the abundance of fresh vegetables and small fruit that comes to our table.

With us, strawberries have given us better returns for the same amount of ground and labor, although we did well with other things last year. We now have bearing 14 rows of strawberries, each 50 feet long; ten rows were planted in the spring and fall of 1901 and four rows set last fall. All of them were more or less injured by late frost. Spring set in early, and our plants responded nicely to the genial sunshine of early April, sending out new leaves in abundance, only to be frozen a little later on. The more advanced crops a few miles further east that have the advantage of a southern exposure, were badly damaged, as the plants were coming into blossom at the time of the frost. Our plants, however, were not so badly injured Having a northern exposure they were more backward; but just about the time they began to make second growth a drought set in lasting three or four weeks, which was again discouraging. However, they again rallied and notwithstanding the several relapses, we had a very fair crop of fine, large berries. We picked our first ripe berries June 3rd, and are still picking from time to time. Up to date we have picked 145 quarts, and expect to pick 25 or 30 quarts more, making 175 quarts. These could have been sold for 15 cents per box very easily; their size, flavor and freshness would have easily guaranteed this price, although berries in the stores sold for ten cents per box and generally of a poor quality, with nothing to recommend them. Our neighbors would have gladly taken our berries at our own figure, and thought themselves fortunate in getting them. So far we have used them in our own family, which, by the way, is of pretty good size. What we could not use at once were prepared for winter use. The above figures I think will give a fair estimate of the value of this crop; 175 quarts at 15 cents would give us $26.25, or say, in round numbers, $25, and this from less than one-twentieth of an acre. If I intended gardening for profit, in this locality, I certainly would make a specialty of strawberries.

Eckhart Mines, Md.

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Notes from a Carolina Garden.

Our succession string beans now in use (July 14) are the Green Pod Stringless and Silver Bush. The first named is a round, fleshy podded bean and the most completely stringless snap bean we have ever grown. The stock seems very pure and well selected. The Silver Bush is a small growth and smaller pods, which are very light colored and silvery in appearance. It is a delicate bean, but we rather prefer the first named, which seems to us as near a perfect snap bean as one could desire.

Our friends in the eastern part of the State are shipping muskmelons and watermelons by car loads, but ours were so delayed by the dry weather earlier in the season that none are ripe yet. We are watching the Rocky Ford and other varieties closely and will have something to say about them. Have planted some late melons among the sweet corn, and do not see why they may not do as well there as pumpkins do. At any rate we will see.

Sowed some peas today on the land where the Irish potatoes were dug. Would have sown earlier but for the dry weather. Cow peas are as useful in the garden as anywhere, and save hauling manure for humus.

Grapes are beginning to color. The earliest to color and about the most worthless of grapes, is the Champion. I threaten every year to graft mine over with better grapes, but they still stand. The Delawares are beautiful and are now of full size but not yet colored. In our clay soil they do not color as finely as in the sandy soil about Southern Pines, where they are grown in large vineyards for the Northern market.

Sowed the past spring a large quantity of the little bulblets of the Groff gladioli. They were scattered in rows like seed, and much to my surprise many of them are throwing up flower spikes. None of them were larger than a very small hazelnut and their blooming has been a great surprise. In the ground where we planted bulblets last year and took out everything we could find as large as a pea they stand now as thick as grass, and some of them, too, are blooming. These gladioli threaten to be a regular weed in the garden.

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Points and Pickings.

Up to the Young Folks.—We are interested in what the business management says on page 74, and shall note the outcome with some curiosity. In offering to send the Youth's Companion for a year to any boy or girl who will send 50 trial subscriptions to the P. F., the publishers give them good pay to do some work for the P. F., and at 10 cents for the remainder of the year there ought not to be any difficulty in raising a club at every post office in the United States.

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A Free Kidney Remedy.
Dr. D. A. Williams, East Hampton, Conn., says if any sufferer from Kidney and Bladder Disease will send him their address he will mail them free of all cost, some of the remedy they are looking for—the ONE that will cure them.

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Bony Enlargement Completely Removed.

Chatham, Ont., March 20, 1903.
Dr. B. J. Kendall Co., Enosburg Falls, Vt.

Gentlemen.—Please send me your "Treatise on the Horse and his Diseases." I have been using your Kendall's Spavin Cure on a horse that I purchased last summer with a swollen front leg; it was just about round and hard as a bone; I could not learn the cause of the swelling, but a man who had previously owned him told me that I need not try to do anything with that leg, everything had been well tried. But I had great faith in the Spavin Cure, so I used three bottles and it completely cured the leg. I can heartily recommend Kendall's Spavin Cure to all horse owners. Yours very truly,
H. J. SEYMOUR.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Car Window Impressions.

On a trip to Washington from Philadelphia, which the writer made in the early part of July, his gaze was from the car window nearly the whole distance going and returning, as it usually is on such occasions, the horticultural and agricultural features being of special interest to him always. The orchards seen along the route—the Pennsylvania R. R.—where almost entirely of apple and peach. There was nothing special observed in the method of culture; the apple orchards were mostly old ones, those of the peach being younger. In the way of fruit, it may be said there is no crop at all of peaches, while of apples the trees are bending down with the crop. It will be a full apple crop year in that section, as it is in this part of Pennsylvania, even though the fall from curculio attacks should be large. For a short distance into Virginia the writer found the same conditions to exist, peaches none, apples abundant.

What may have been hidden from sight cannot be said, but within sight from the car window, not a pear, plum or any other fruit tree was visible, nothing but peach and apple. Splendid sites for orchards are in evidence in great numbers, and it causes wonder why some attention is not given to fruit raising, such as one finds in many districts of New Jersey, for instance, taking Moorestown as an example. Between Baltimore and Washington are numerous truck farms, generally appearing well managed; and how well fruits should fit into such a business. On the north side of the capitol building, where no sunshine reaches in winter, were some good sized fig trees, twelve feet high. If they receive no covering in winter they are thriving better than to be expected, as it must freeze pretty severe there at times.

THE EMPIRE KING The Only Hand Pump Sprayer with perfect agitator and brush for strainer. Valuable Book Free.
Field Force Pump Co., 12 Market St., Lockport, N. Y.

Crimson Clover Seed.
Home grown – now ready. Write for prices.
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APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free.
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Nitrate of Soda for Small Fruits.
Send your name on Post Card for our Free Bulletin.
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SALZER'S Seeds Never fail. Send 10c. for catalog and rare seed samples worth $10 to any farmer.
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STARK TREES best by Test—78 Years LARGEST Nursery.
FRUIT Book free. We PAY CASH Weekly
WANT MORE SALESMEN
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WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

SAN JOSE SCALE
And other Insects can be Controlled by Using
GOOD'S
Caustic Potash Whale-Oil Soap No. 3.
It also prevents Curl Leaf. Endorsed by Entomologists. This soap is a Fertilizer as well as Insecticide. 50-lb. Kegs, $2.50; 100-lb. Kegs, $4.50; Half Barrel, 270 lbs, 3½c. per lb.; Barrel, 425 lbs., 3¼c. Large quantities, Special Rates. Send for Circulars.
JAMES GOOD,
939-41 N. Front St., Philadelphia, Pa.

Made for the Man Who Wants the Best.
THE GREAT WESTERN Manure Spreader
Is the only Spreader made that has an **ENDLESS APRON** and the many advantages which it possesses. It's always in place and ready to receive the load without any turning back either by hand or complicated, easily broken machinery. The front and rear axles are of same length which, with the **Broad Tires Prevents Rutting** of fields, meadows, etc. and makes
LIGHT DRAFT. SPREADS ALL KINDS OF MANURE, wet, dry, frozen, light, chaffy, packed or caked. Spreads lime, plaster, wood ashes, cotton-seed and hulls, etc. Can be changed instantly to spread thick or thin while the machine is in motion—8 to 25 loads per acre. Has the only successful **END GATE AND BEATER AND HOOD PROTECTOR IN USE.** Made of best material in every way and sold under a **POSITIVE GUARANTEE** as to quality, capacity and durability. All parts breaking within one year will be replaced without charge. Write for free Illustrated and Descriptive Catalogue—the best and most complete spreader catalog ever published.
SMITH MANURE SPREADER CO., 58 N. JEFFERSON STREET, CHICAGO, ILL.

CRIMSON CLOVER
NEW CROP. READY FOR DELIVERY.
Crimson clover is less an experiment than ever before, and each year it is more enthusiastically recommended. It bids fair to be one of the most important crops. It is an annual. It grows when other clovers are practically in a dormant state; in fact, in Delaware, it is called a winter clover. Its great root growth commends it as a nitrogen gatherer. As a manure maker it is of the highest efficiency; as a forage crop it is of great value. It may be fed green, or put in the silo or made into hay. Poultry folks use it successfully for fall or winter chicken pasturage. Its greatest use, however, trends toward winter mulching and green manuring. In this respect it appeals strongly to all progressive farmers as an economical fertilizer. Sow 15 pounds of seed per acre. It may be sown amongst growing corn after the last working or on clean stubble, in tomato fields, amongst grapes, tobacco, etc.
Packet, 10c.; pound, 30c.; 3 pounds, 75c., postpaid. By express or freight, purchaser paying charges, Peck, $1.00; bu., $3.75.
WM. HENRY MAULE,
1711 Filbert Street, Philadelphia, Pa.

SAVES ITS COST ON THE FIRST CROP.
It spreads all kinds of manure, lime, salt, ashes, compost, etc., either broadcast or in rows. Does it better than it can possibly be done by hand.
Do you know of any other piece of machinery for use on the farm of which this can be truly said?
The Improved
Kemp Manure Spreader
not only makes easy work of getting out the manure, but by the way in which it breaks it up and makes it fine, it more than trebles the value of the same. It will break up and spread evenly, manure that cannot be handled with a fork. It doesn't matter how hard, lumpy, caked, strawy, or stalky the manure is, this machine will spread it. It makes fine, well rotted manure go a long ways in top dressing wheat in the spring, meadow lands, pasture, etc. Being mounted on broad faced wheels, it can be handled on any kind of ground without serious cutting in or rutting. Can spread back and forth, as front wheels turn entirely under. Can be turned on the ground it stands on. 1903 machine has our new **Beater-Freeing Device, Apron-Returning Device** and numerous other improvements. Send for latest catalogue (free) and read about these and other advantages and also about **"How to Grow Big Crops."** Remember that the only original and genuine Kemp Manure Spreader is made by us and the patents thereon have been fully sustained by a recent decision of the U. S. Circuit Court. **KEMP & BURPEE MFG. CO., BOX 33, SYRACUSE, N. Y.**

Treatment of Crimson Rambler Rose.

A correspondent near Darby, Pa., asks how to treat a Crimson Rambler rose to have it flower well next season. Now that it has done flowering, cut away some of the weaker twigs and manure it well, to force along the strong shoots from the base or wherever they may be pushing, as it is these from which the flowers of next year will come. In this respect it acts as Prairie Queen and many other climbing roses do, flowers from the strong shoots made the previous season; and the effort must be to get these shoots as strong as possible, then a display of flowers is assured.

Layering Trees and Shrubs.

The increasing of nice trees and shrubs by grafting, budding or by cuttings is not as convenient for amateurs as it is for professional men, but propagating by layering is not difficult for anyone to do. Layering consists of bending beneath ground of the shoot it is desired to root, first cutting a slit in it, commencing just below where a leaf has been and cutting upward for the length of an inch or so. This cut part must be in the centre of the bended part of the shoot which will be below ground. The object of slitting the shoot is to facilitate the forming of roots as they are produced more freely from a cut surface than from a perfect one. The cut should be made on the upper side of the shoot, as there is less danger of the shoot breaking than there is if cut on the under side. Nurserymen find that almost any shrub or tree will root when layered, though some are more difficult than others, and some require a longer time to root. Easy rooting sorts could be layered in summer and would be rooted by late autumn, while others would require two seasons for it. In either case, unless for some particular reason, it is as well to leave the layers undisturbed for two seasons, at the end of which time they could be cut off from the parent plant and set out as separate plants. It facilitates rooting if good soil be given the layers when they are made, if the natural mould is not good. Decayed manure with some sand to it makes a material in which roots form quickly. All shrubs form roots readily when layered. In all cases shoots of the present season are used, as being the best ones for rooting. The common hardy white hydrangea, the Japanese snowball, golden bell, spiræa and weigela and like shrubs root easily from layers. The California privet roots so easily from hard-wood cutting set in spring that the extra labor which layering calls for is unnecessary in its case.

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Horticultural Queries.

Dewberries.—I am having some trouble with my dewberries. The new growth covers up last year's growth and also the berries, which makes it very disagreeable work picking them Should all the canes that come from the old crown be allowed to grow?

Junction City, Ore. C. H. PRESTON.

It is customary with many growers to stake their dewberries, and you would find it to your advantage to use some method to keep them off the ground. Go over them in spring, tying them to some support. If there appear too many of them together you could cut out some of them. Let the new growth lie on the ground for the season, tying it up when spring comes. As soon as fruiting is over all old canes, or shoots, should be cut away, as this adds to the vigor of the new ones.

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Horticultural Notes.

Bees are very fond of the flowers of the lime, or linden tree and in the vicinity of Philadelphia this tree has been planted by some beekeepers for the use of their bees. Either the English or native sorts answer.

Cultivating Young Trees. — Young trees need cultivating just as much as garden or farm crops do. Why it is so many think to let the grass grow up about them cannot be explained. Nurserymen who raise the trees for sale cultivate all summer long, just as the farmer does his corn.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Young Chicks in Transit. — Sometimes it is desirable to ship little chicks, with or without the mother hen. I would rather buy a whole brood of chicks of good stock when I desire to infuse new blood into my flock, than risk the uncertainties of buying a sitting of eggs and have them shipped a long distance. There is no obstacle in the way of the successful shipment of even very little chicks, no more than chicks that are several weeks or months old. Usually I would risk the shipment of even chicken infants without the old hen, than with her. She is always liable to kill some if they go in the same box or compartment together. Chicks a week old can be shipped even long distances with perfect safety. Let the boxes be lined with felt, and put soft bedding in the bottom. A box to hold a dozen chicks should be ten inches square and about six inches high. A contemporary recommends that the food for week-old chicks be placed in a wire bag hung from the top of the box. The food may consist of dough made with milk and squeezed fairly dry. I hope the practice of selling and shipping chicks rather than eggs for hatching, will become more general. It deserves it.

Packing Iced Poultry in Hot Weather.—A Boston commission house gives the following directions for packing and shipping iced poultry during the warm season: "Leave heads on and entrails in. Strong, sound barrels (sugar barrels preferred) are best for the packing, and the ice should be washed before using. Place a good layer of broken ice in the bottom of the barrel and then a layer of poultry, commencing in the middle and packing in a circle, with heads down, backs up and feet towards the centre; then alternate layers of ice and poultry, filling the barrel to within six inches of the top, taking care to have ice between the poultry and the staves of the barrel; top off with large pieces of ice and cover the barrel with bagging (which insures its being kept right side up) and mark with brush or stencil. If shipped from any considerable distance put an extra large piece of ice on the top, and if properly packed the poultry can be on the road fifty hours without injury; and if heavily iced and shipped in a refrigerator car, can safely be four or five days in transit; but even for short distances, it is better to use ice, as poultry, especially if not drawn, packed without it in warm weather, if only for an hour or two, will turn green across the back, and become almost worthless."

Breeds and Colors.—We feel that we cannot make the advice to keep only pure breeds, and only a single one of them for everyday practical purposes, stronger than we should The selection of breed only may offer some difficulties for the novice in this business, or for the farmer who is not fully acquainted with all the leading breeds of fowls. Shall we keep Brahmas, or Leghorns, or Wyandottes, or Minorcas? Shall we have white fowls, or brown, or black? Our friend P. H. Jacobs, says in Farm and Fireside: "Amateurs who are not familiar with the merits of the various breeds find it difficult to make a selection. Everything depends on locations and conditions. The best breeds for confinement are the Brahmas, Cochins and Plymouth Rocks, the first two breeds being easily kept within bounds by a fence only three or four feet high, but they readily become overfat if too highly fed. The Leghorns and the Minorcas are excellent layers, but prefer a range. They have large combs, which are liable to become frozen if winter is severe. The Wyandottes are of medium size, and are excellent for nearly all purposes, but are not as active as Leghorns or as contented as Brahmas. They have rose combs, yellow legs, and are excellent layers. The different varietes of Wyandottes — White, Black, Silver, Golden and Buff—differ only in color of plumage, their characteristics being the same. The best breed for laying is not so much in the breed as in the feeding." And in reply to the query whether Brown Leghorns are superior to the White or Buff varieties, or Barred Plymouth Rocks superior to the White Rocks, Mr. Jacobs says: "Color of plumage is a matter of preference only. There is no difference between White and Barred Plymouth Rocks in laying qualities or hardiness. Some object to white birds because the plumage is more easily soiled, while birds of buff color seem to 'show dirt' less. There is no advantage possessed by any kind so far as color of plumage is concerned." On the other hand, when I once had the notion to change my Black Langshans for White Langshans, and I asked a neighbor who kept the White Langshan, I was told that the latter were not as hardy as the Black ones. And so I kept my black fowls, and hardly think I shall change at this late day.

Poultry as Insect Eaters. — Chicks, turkeys, ducks—in fact, all domestic fowls are great hunters of all sorts of insects. Are we making the most of this observation? Hardly. A coop of very little chicks, turks or ducklings, kept in a patch of melon, cucumber or squash vines, for instance, will keep the plants around them free from yellow striped bugs, flea beetles, etc. Yet this device is seldom made use of by the average gardener. If we had the big flock of Pekin ducks and the lot of ducklings that we had on the place years ago, our corn, lettuce, celery, etc., would not be so fearfully infested with the nasty slugs. Possibly the ducks might take not only the slugs but the lettuce also, as they are extremely fond of that vegetable. But the garden would be once thoroughly cleared of this and possibly other pests. We used to keep guinea hens for the very purpose of keeping the garden free from bad insects, and we would keep them to this day if their noise was not so very disagreeable. The Interstate Farmer sums up the services which poultry render in the garden, orchard and field, as follows: "If every insect caught by a hen in a day were counted and an estimate made of the number of insects eaten by a flock of twenty-five hens, it would show that hens are more useful in that respect than may be supposed. When busily at work scratching, the hen secures many grubs and worms, while the larvæ of insects also assist in providing them with food. A flock of turkeys will search every nook and corner of a field for insects, and as a turkey can consume a large amount of food it will make away with a vast number of them each day. The active guinea is ever on the search over the fields for insects. It does not scratch, but every blade of grass is looked over, and it rarely comes up to the barnyard to seek food. Its industry prompts it to secure its own food, and in so doing hundreds of insects are destroyed. The ravenous duck, whose appetite seems never satisfied, will attempt to seek enough in the fields, and it captures not only insects, but the field mouse and small reptiles will be eaten if other food is not plentiful. But if insects abound they will be content with eating them in preference to anything else." All this is couched in very moderate, almost tame language. We would be inclined to make it much stronger if we could. We like to have the hungry hens follow after the plow and harrow, to pick up grubs, cutworms, wireworms, May beetles, and worms and cocoons of all sorts. Poultry are paying well for their keep by such services.

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Ensilage Machinery.—We are glad to welcome to our advertising columns so good an article for the making of silage as the famous Gale-Baldwin and the Baldwin Ensilage Cutting and Carrying machinery, found elsewhere. We commend this advertisement specially to the notice of our readers, trusting it will lead to their sending for and making study of the catalogue, which fully describes a line of hand as well as steam and electric power machinery. The advertisement is by Belcher & Taylor Agricultural Tool Co., Box 30, Chicopee Falls, Mass. Mention P. F.

Where the Best Land Lies.—The man with swamp land does not have to be told that it is the richest part of his farm. There lies unworn and unused the accumulated washings of vegetable mould, perhaps of centuries. The dread of undertaking its drainage prevents its use even after the soil on all other portions of the farm is worn out. The difficulties of draining cold soils, bog and swamp lands are usually overestimated. We venture to suggest that many owners of such land would see a new light if they would send for and make a study of a little book we have in mind, entitled "Benefits of Drainage and How to Drain." It is published by John H. Jackson, 48 Third Ave., Albany, N.Y., whose firm has been manufacturing agricultural drain tile for upwards of fifty years, and who is competent to advise wherever drainage is the subject under discussion. This little book will be sent free of charge to all wishing it in the New England and Middle Atlantic States, and will be sent anywhere postpaid on receipt of 15 cents. It teaches in a forcible way the advantages of tile draining on many farms where it is thought unnecessary and covers the field of plan, means, process, etc. Mention the P. F.

Potato Growers
If you need a potato digger or are thinking of buying a digger of any kind, let us have your name and address.
D. Y. HALLOCK & SONS, Box 803, York, Pa.

Death to Lice on hens and chickens. 84 page Book Free. **D. J. LAMBERT,** Box 312, Apponaug, R.I.

MAKE HENS LAY
Get a Mann's Model Bone Cutter
F. W. MANN CO., Box 14, Milford, Mass.

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Famous all over the world. 1903 Great Catalogue No. 98 Free.
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POULTRY Hay, straw, fruits and produce sold on commission. Prompt returns. Careful personal attention to every shipt. Est'd 59 yrs.
GIBBS & BRO., Com'n Merchants, PHILA., PA.

B B B MAKES HENS LAY.
Send for sample and book, free.
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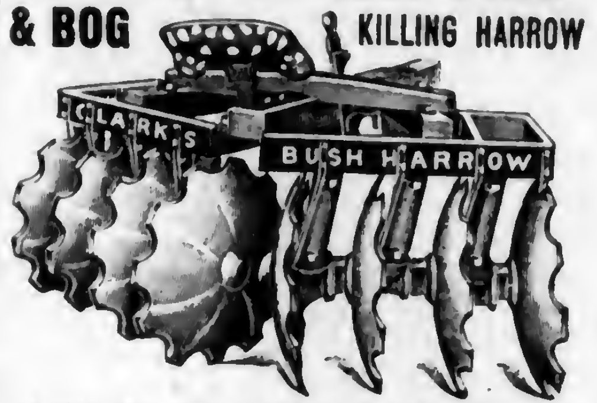

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Samples sent free.
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The Practical Farmer.

FOUNDED IN 1855
Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, August 1, 1903

THE Business Management makes an appeal to the young people of the great P. F. family on page 74 which we hope will result in several thousand new subscribers to the P. F. We want to extend the influence and usefulness of the paper and there are thousands and thousands of farm homes where it is needed. Our young friends can help us very decidedly through this generous proposition and at the same time minister to their own pleasure and profit by reading a paper which we consider the best young people's paper published.

◆

Chinch Bugs.

Almost every mail brings to the Editor letters asking how to check the chinch bugs that are invading the corn fields after the wheat has been cut. The Cream of the Bulletins this week tells something about this insect and its habits. Wheat has been seriously damaged in the South this season, and since harvest the farmers who are unmindful of the habits of the chinch bug have discovered that they have invaded the corn field, where they will do more damage if possible, than in the wheat. Knowing that they were in the wheat, the best plan would have been to have watched their course towards the corn field, and to have plowed a ditch across their path, keeping it dry and loose by dragging a log through it. The bugs will fall into this ditch and be slow in getting out and when gathered there can be destroyed by sprinkling with kerosene or kerosene emulsion. Then if the grass ahead of them is sprinkled with Paris green mixed with water many of them will be destroyed. When they have already gotten into the corn field, cut down a few rows ahead of them and poison these. But the principal method to use for the destruction of the chinch bugs is to kill them in winter. They winter over as mature insects ready to lay eggs by the millions in the spring. They winter in any trash around the field. Brush heaps, clumps of grass and briars or any rubbish in the fence corners. Then after they have gone into these winter quarters wage war on them and clean the fields at same time. Burn all rubbish about the fields, being sure that in doing this around fields that were infested this year, you will be destroying more than you can possibly destroy if you let the insects live over and lay eggs. Fields that are well cleaned in this way in the fall and winter will seldom be infested the next season So take time by the forelock and during the leisure season save yourself much worry and your fields from damage.

◆

Back to the Farm.

A Kansas paper puts it in this way: "Every farmer boy wants to be a school teacher, every school teacher hopes to be an editor, every editor would like to be a banker, every banker would like to be a trust magnate, and every trust magnate hopes some day to own a farm and have chickens, cows and pigs and horses to look after. We end where we begin." The men who have been raised on the farm, and have a love for country life may go to the city and make fortunes, but nearly every one of them has a longing to get back on the farm, where they know is the only truly independent and comforting life. Would it not be better for the young men on the farm, who realize what there is for them in agriculture, to be content to spend their lives on the farm, and to be leaders in the improvement of the soil, instead of rushing into the hurley burley of city life only to find in mature life that the farm is the best place for them? True, there is this advantage in gaining a fortune in the city; the young man learns business habits, and when the old love takes him back to the farm he is apt to make the best of farmers. We have known many such, men who have amassed a competence in business and have acquired habits in business that brought them success, and who by applying the same business principles to the farm, have made a great success as farmers. Some of the most successful farmers we have ever known were just such men, and their success shows that the great need of agriculture is the application of exact business principles to the farm. The man who has spent years in a successful mercantile life, knows the importance of accurate bookkeeping for success, and when he goes on the farm because he loves the farm life, he never does as the majority of farmers do, guess at everything, but by accurate bookkeeping, he knows just what the farm is doing and what everything costs him. He knows the importance of buying for cash, and keeping expenses down, if profit is to be made. Why, then, should a man have to spend the best years of his life in acquiring such habits in the city rather than learn to apply them at once on the farm and grow up a business farmer. And it is right here that the education of the young man who intends to spend his life in tilling the soil comes in. Get the education that fits you for the life you intend to follow, just as the lawyer and doctor fit themselves for their profession, and then come back to the farm before the heyday of life is past, and take the lead among your fellows.

◆

Grass Culture of Orchards.

We believe that the late Thomas Meehan was the first prominent horticulturist who advocated the keeping of orchards in grass, cutting the same frequently and using it as a mulch to the trees, while keeping up the fertility of the soil by annual top dressings. Many years ago we became satisfied from our own experience that Mr. Meehan was right, and we have for thirty years past consistently advocated this method. It is rather amusing, therefore, to find that the success that has been made with it by some orchardists in Ohio, has led to a wide discussion as though the idea was something new with the Ohio growers, and many arguments pro and con are to be found in the papers.

A year or so ago we were invited to make an address before the Virginia Horticultural Society at its meeting at Roanoke, Va., on "Orchards and Orcharding." Mr. Van Alstyne, of New York, was put down for a similar address. His paper came before ours, and we were rather surprised to find that Mr. Van Alstyne had prepared a paper that agreed so well with ours that ours seemed superfluous. But we were glad to find that an orchardist of so much experience had found, as we had, that for mature, bearing trees of apples grass was the best, provided it was there for the benefit of the trees only and not to be used for hay or pasture.

During the earlier years of an apple orchard, when growth is the thing most needed, clean cultivation and liberal manuring are the means for getting the trees. But rapid growth and fruitfulness do not go together, for the strongest growers among apples are usually the longest in coming into bearing, the Northern Spy, for example. Therefore when we have the trees well grown and of a size to be fruiting the slight check given by putting in grass is beneficial to the fruiting. Then if all the grass that grows on the land is cut several times during the season and used as a mulch, while annual top dressings are applied to keep up the fertility of the soil, especially in phosphoric acid and potash, a fair annual crop of good fruit will be the result if the spraying for insects is not neglected. Not neglected trees in a sod, but trees grown in the best manner in grass are to constitute the best orchards of the future.

◆

More Good Farming in North Carolina.

Mr. J. D. Aaron, of Mount Olive, N. C., tells about his farming, in the American Agriculturst, and his experience is not an uncommon one in that fertile section of small fruit growers and truck farmers. He has made a little farm of 65 acres yield him $4,500 in products in a season, besides producing feed for stock. He paid $16 an acre for his land, but would not now take $100. Good farming on an intensive plan pays as well in the South as elsewhere. This secton of the State has long been famous as the locality that supplies all the tuberose bulbs sold in the American and English markets, and the tuberose growers along the Atlantic Coast Line R. R. are now spreading out into other lines of floriculture. Gladioli are being grown in large areas, and acres and acres of dahlias and cannas make a grand show from the railroad. Experiments are being made with the Bermuda lily, and it is believed that eventually these will be grown there with success commercially. With a mild climate and a soil of great natural fertility Eastern North Carolina is fast forging to the front in horticultural production. Mr Aaaron says that this season, from seven and a half acres in strawberries he received $3,052.72. He gets from a bale and a quarter to a bale and a half of cotton from the same land from which he gets from 375 to 400 barrels of Irish potatoes in June, by planting the potato rows wide enough apart to put in rows of cotton between them after the potatoes are up. And Mr. A. is but one of many intensive farmers in the same neighborhood.

Mr. D. J. Aaron, also of Mt. Olive, brother of Mr. J. D. Aaron, of whose farming we quoted above, writes: "I had in cultivation 16 acres of strawberries and received from them, $3,150.00; 20 acres in Irish potatoes and received from them $1,650.00; 20 acres in canteloupes and received from them $2,000.00; total, $6,800.00. The potato land is now in cotton, having been planted in 4-foot rows between the potatoes. I have land in sweet potatoes which last year yielded me $100 per acre, and expect as much this year, as they will be off soon, and early ones sell near by for $1 per bushel. Two acres in turnips paid me $100 per acre. The Bermuda lilies can be successfully grown here as well as anything along that line." Mount Olive is in the great bulb growing section of North Carolina, where fields are devoted to tuberoses, dahlias, cannas and gladioli, and the bulb growers there are branching out into the cultivation of other bulbs. With a level, warm and fertile soil Eastern North Carolina promising to be a garden rivaling Long Island, by reason of a superior climate, which admits of a repetition of crops on the same land during the season that cannot be imitated North. The twenty acres of Irish potatoes which brought Mr. Aaron $1,650 in early June are now growing cotton that will make, in all probability, 25 bales. At present prices for cotton, now selling in North Carolina for 13 cents, the 25 bales will bring about the same amount as the potatoes, making $3,300 from 20 acres of land, or over $160 per acre.

◆

The Cream of the Bulletins.

Maine Agricultural Experiment Station, Orono, Me. Bulletin No. 91. The Chinch Bug in Maine. Being an account of the chinch bug in Maine, together with a description of the insect, its habits and enemies, and methods by which it may be successfully fought. By H. W. Britcher.

The widespread ravages of the chinch bug in all parts of the country render any information in regard to the insect, its habits and the means for its extermination of value to farmers not only in Maine, but in all parts of the country. The chinch bug has been recognized as a serious pest in this country for over one hundred years. As early as 1785 it did so much damage in North Carolina that wheat growing was abandoned. In 1809 there was another serious visitation in that State and a third destructive period in Virginia and North and South Carolina was reported in 1839. Between 1845 and 1850 it had spread to Illinois, Wisconsin and Indiana, and in 1887 it was estimated that from Kentucky north and west its damage amounted to $60,000,000. When full grown the chinch bug is about one-sixth of an inch long and one-twentieth of an inch broad. It is black in color, with a flat back on which the wings rest and are whitish in color, with a black spot near the edge of each wing. In winter they hibernate under loose bark and chips, dried leaves, corn shocks, the weeds in fence corners and low down in clumps of wild rushes and grasses. The eggs are deposited near or below the surface of the ground on the stems or roots of the food plants. In three weeks each female may lay 300 to 500 eggs. After hatching the young usually remain below the surface of the ground, sucking the juices from the stems. When nearly mature they move higher up. After small grain is cut the whole brood crawls off to corn nearby. They have been known to travel enmasse for a quarter of a mile. From the feeding places they crawl to the hiding places in the fall. It is reported that the quails destroy a great many in some sections, and many small birds feed upon them. In Oklahoma it is reported that Pekin ducks eat them readily. Frogs are also known to eat them, and the lady bug and other beetles also eat them. A fungus disease has been found to attack them in the West, and this fungus has been cultivated in laboratories and distributed where the bugs are abundant. But it has been found that the fungus will only spread in continued damp weather. The weather may check them, for while the mature insects are little damaged by wet the young are seriously damaged and killed by wet. In Maine the chinch bug works mainly on grass, and the amount of damage anywhere depends on the number of bugs that survive the winter. Where there is a great deal of clover in a meadow the bugs will winter under the clover borders near where they stopped eating the grass. These strips can be mowed and burned when the ground is frozen and no damage done to the grass. Kerosene kills the bugs readily, and kerosene emulsion is also effective. It is hard, however to reach them all in grass. When they abound in clumps of wild grasses these may be covered with kerosene and burned. Where they are in considerable number at edges of the spots they have eaten over, they may be destroyed by plowing under the strip in which they are hiding, if the plowing is done deeply and followed by dragging and rolling to completely cover all vegetation and stop any holes. But we would add to the above that where the bugs are working in wheat and the wheat is cut and they begin to move towards a corn field, the best way is to poison with Paris green and water the grass ahead of them, and then plow a ditch across their path and drag a log through it often enough to keep the sides loose and dusty. They will tumble into this and can then be killed by sprinkling with kerosene. Once in a corn field, the only way is to cut down a few rows ahead of them and poison these. Then in the late fall, when they have gone into winter quarters, clean up and burn all rubbish around the fields and in the fence corners and thus destroy those that are wintering in these places. More can be done in this way than by fighting the feeding bugs.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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CONTENTS

AGRICULTURAL. — Manure Spread in the Fall is not Wasted. — How to Make a Cement Floor in a Close Building. — Health Hints.— Getting More Oxygen Into the Lungs. 65
Progress of Alfalfa-Growing in Kansas.—A Mortgage Instead of Renting. 66
QUERIES.—Clover in N. C. Mountains. —Hauling out Manure.—Permanent Pasture in Va. 66
Nut Grass. — Fertilizer Mixing.— Trouble with Cucumber.—Cow Peas and Soil Washing. 67
LIVE STOCK AND DAIRY.—"Go West, Young Man." 68
Stock Queries. — Alfalfa. — Swine Query. 69
VETERINARY. — Indigestion. — Lameness. — Distemper. — Leucorrhoea. —Probably Gloss-Anthrax. 69
GARDEN.—Money in a Modest One-Acre Garden. — Notes from a Carolina Garden.—Points and Pickings. 70
HORTICULTURAL.—Car Window Impressions. 70
Treatment of Crimson Rambler Rose. —Layering Trees and Shrubs.—Horticultural Queries. — Dewberries.— Horticultural Notes. 71
POULTRY. — Seasonable Suggestions.— Young Chicks in Transit.—Packing Iced Poultry in Hot Weather.— Breeds and Colors.—Poultry as Insect Eaters. 71
EDITORIAL.—Chinch Bugs.—Back to the Farm.—Grass Culture of Orchards.—More Good Farming in North Carolina. 72
CREAM OF THE BULLETINS. 72
COMMERCIAL. 73
HOME CIRCLE.—Editorial Chat.—All in a Lifetime.—Part 4. 74
Our Shut-Ins. — Something About Wonderful Helen Keller.—Youth's Parliament. 75
OUR EXPERIENCE POOL.—Topic No. 583.—Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers? 76
FARM IMPLEMENT ANNEX.—Prefers to Buy Hay Slings.—Substitute for Paint. — Shock Compressor. — Tools for Getting out Field Stones.—Seed Coverer.—Those Long Rivets.—Adjustment of Scraper on Disk Plows. —5-Tooth Hand Cultivator. — Good 2-Horse Planter. 77
POSTAL CARD CORRESPONDENCE. 80

THE most interesting item in this number to the boys and girls of the P. F. family is the announcement at the head of the next page. We believe that any bright boy or girl who reads the P. F. would have no trouble in raising a club of 50 trial subscriptions to the paper at 10 cents each. Almost every neighborhood will furnish the material for such a club. We are sure that the bright boys and girls who are interested in the Home Circle and Youth's Parliament would be delighted with the weekly visits of the Youth's Companion. Here is a chance to enjoy that excellent paper for a whole year absolutely free. Send us your name and address and we will send you 50 free sample copies and subscription blanks and you can go to work on the club at once. The trial subscriptions expire Jan. 1, 1904, so that for only 10 cents the trial subscriber will receive the P. F. for 5 months at a fraction of its cost. Send 50 names and $5 for same, and we send you the Youth's Companion for a year.

COMMERCIAL

Philadelphia, July 25, 1903.

WHEAT.—

No. 2, red, spot and July	78¼ @ 78½
No. 2, Penna. and Del.	79¼ @ 79½

CORN.—

No. 2	54½ @ 55
No. 2, yellow, track	57½ @ 58
No. 3	50½ @ 51

OATS.—

No. 2, white clipped	41
No. 2, white natural	40½

LIVE POULTRY.—

Receipts of all descriptions were light and the market ruled firm with a good demand.

Fowls, hens, per lb.	14 @ 14½
Roosters, per lb.	9½ @ 10
Spring chickens, per lb.	16 @ 19
Spring ducks, per lb.	12 @ 13
Old ducks, per lb.	11 @ 12

DRESSED POULTRY.—

There was a good demand for desirable lots of fowls, receipts of which were promptly cleaned up at firm prices. Fine heavy broiling chickens were scarce and wanted, while the smaller sizes were selling more freely at slightly better prices.

Fresh killed fowls, choice	14
do do do average	12½ @ 13½
do do old roosters	10
do do broilers, nearby	20 @ 22
do do do Western	20
do do do average	15 @ 18

BUTTER.—

Receipts, 2,708 tubs and 3,670 boxes. The market for Western creamery was depressed by heavy receipts and lower outside advices, and prices declined ½c. Early in the day business in extras was reported at 21c., but trade was slow at that rate and holders subsequently shaded the price to 20½c., at which supplies were pretty well cleaned up. Many of the receipts showed defective quality, and there was considerable accumulation of unattractive goods. For this class of stock the market continued weak and unsettled, with holders anxious to sell. Strictly fancy nearby prints ruled steady, with supplies well cleaned up, but the market was overstocked with defective goods, prices of which had to be sharply shaded to attract buyers.

West. creamery, 1st to extra	19 @ 20½
Ladle packed	14 @ 16
Prints, nearby, 1st to extras	20 @ 22
Prints, West. do do	18 @ 21

EGGS.—

Receipts, 2,515 crates. Strictly fine new-laid eggs were very scarce and the market for this description advanced ½c. under a good demand. Some dealers were obliged to draw on reserves in cold storage because of the inadequate offerings of choice eggs in current receipts. The market was liberally supplied with heated and inferior stocks, which were hard to move and pressed for sale at best rates obtainable.

QUOTATIONS AT MARK.

Nearby fresh, ret'bl crates	18½
Western, choice, free case	18½
So. Western do do	16 @ 17
So. choice do do	15½ @ 16

CHEESE.—

N. Y., f. c. small—	
New, choice	10¼ @ 10½
Fair to good	9½ @ 10
State, part skims, prime	6 @ 8

GREEN FRUITS.—

Blackberries, per qt.	6 @ 9
Peaches, Ga., carrier	2.50 @ 3.25
Plums, Del., 8-lb. bas. car.	1.00 @ 1.25
do do 10-lb. bas.	14 @ 18
Watermelons, Fla., car	100.00 @ 175.00
Cantelonpes—	
Ga. & N. C., per crate	1.00 @ 1.50
Pineapples, Fla., crate	2.50 @ 3.50
Whortleberries, per qt.	5 @ 8

APPLES AND PEARS.—

Apples—	
Del. & Md., ½-bbl. bas.	75 @ 1.00
do do per bbl.	1.50 @ 2.00
Pears, LeConte, Ga., per bbl.	1.50 @ 2.25

POTATOES.—

White, So. Rose, per bbl.	2.00
do do do md., bbl.	1.50 @ 1.75
do do Chili, No. 1, bbl.	1.75 @ 2.00
do Jersey, per bas.	40 @ 45
Red So. Chili, No. 1, per bbl.	1.75 @ 2.00
do do do md., per bbl.	1.25 @ 1.50
Sweets, So., pr., yellow, bbl.	3.00 @ 3.25
do do red do	3.00 @ 3.25

BEANS AND PEAS.—

Beans, marrows, H. P., bu.	2.60 @ 2.65
Pea beans, H. P., 1902, bu.	2.35
Red kidney, 1902, bu.	2.90 @ 3.00
Green peas, per bu.	1.60
Scotch peas, per bu.	1.65

COTTON.—

Cotton per cwt.	12.75

FEED.—

Bran, bulk, winter, per ton	17.50 @ 18.50
Bran, sacked, spring	17.50 @ 18.50

HAY AND STRAW.—

Timothy, N. Pa., No. 1, l'g	20.50 @ 21.00
do Western	20.00 @ 20.50
Timothy, mixed Western	14.50 @ 17.50
Oat	9.00 @ 10.00
Straw, straight rye	18.50 @ 20.00
Wheat	10.00 @ 11.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle higher.

Extra steers	5¼ @ 5¾
Good steers	4¾ @ 5¼
Medium steers	4¼ @ 4¾
Common steers	4 @ 4¼

CALVES.—

Veal calves active and steady.

Extra calves	6½ @ 7
Fair to good	5½ @ 6
Poor and common	4 @ 5
Grassers	3 @ 4

HOGS.—

Hogs steady.

Fat hogs, Pa., Del.	6½ @ 7½
Fat hogs, Western	7¾ @ 8¼

SHEEP.—

Sheep and lambs steady.

Sheep, extra	4¾ @ 5
Sheep, good	3¾ @ 4½
Sheep, medium	3¼ @ 3½
Sheep, common	1¾ @ 2½
Lambs, spring	4½ @ 7

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New York, July 25, 1903.

WHEAT.—

No. 2, red	81¼
No. 1, No. Duluth	92¼

CORN.—

No. 2	56⅝
No. 2, f. o. b.	57
No. 2, white, f. o. b.	57¼
No. 2, yellow, f. o. b.	57½

OATS.—

Standard, white	41½ @ 41¾
No. 2, white	42 @ 42¼
No. 2, white clipped	42½ @ 42¾
No. 2, mixed	40½ @ 40¾
No. 2, mixed clipped	42
No. 3, mixed	40 @ 41¼
No. 3, white clipped	41¾ @ 42
No. 3, white	41 @ 41¼

HAY AND STRAW.—

Timothy large bales, cwt.	1.15 @ 1.25
No. 1	1.05 @ 1.10
No. 2	90 @ 95
Clover, per cwt.	70 @ 82½
Straw, long rye, per cwt.	85 @ 95

BUTTER.—

Creamery—	
Firsts to extras	18½ @ 20
Ordinary	15 @ 18
State dairy, fresh, tubs—	
Firsts to extras	17 @ 18
Ordinary	14 @ 16
West. Imitation Creamery—	
Finest	17
Ordinary	15 @ 16
Packing stock—	
No. 1 solid packed	14
No. 2 and 3 solid packed	12 @ 13½

CHEESE.—

State, f. c., small, extra	10¼
Fair to prime	8½ @ 10
Large colored, extra	10
Large white, choice	10
State, light skims—	
Choice	8¼
Part skims, prime	6 @ 6½
Full skims	1½ @ 2

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—	
Fancy selected white	19 @ 19½
Mixed lots	18½
Fresh gathered, extras	18½
Fresh gath'd, 2nds to 1sts	15½ @ 17
Western—	
Fresh gath., 1st to extras	16 @ 18½
Dirties, fresh gath., No. 2	9 @ 11

LIVE POULTRY.—

Spring chickens, nearby, lb.	19
Western, per lb.	19
Southern, per lb.	18
Fowls, per lb.	14½
Roosters, per lb.	9
Turkeys, per lb.	11
Ducks, average, per pair	60 @ 90
Geese, average, per pair	90 @ 1.25
Live pigeons, old, pair	25
Live pigeons, young, pair	20

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys—	
Average best, per lb.	13 @ 15
Old	14 @ 15
Broilers—	
Phila., 3 to 4 lbs. pair, lb.	25 @ 26
State & Penna., 3 to 4 lbs. to pair, per lb.	22 @ 23
Western, d. p., per lb.	20
do scalded	18
Southern, scalded, sm., lb.	13 @ 14
Fowls, West., scald., sm., fcy	13
Dry picked, small, fancy.	13½
Southern & So. West., d.p.	13 @ 13½
do scalded, per lb.	12½ @ 13
Spring ducks—	
Long Island, per lb.	17½
Eastern, per lb.	17½
Jersey, Pa. & Va., per lb.	16 @ 17
Western, per lb.	10 @ 13
Squabs—	
Prime, large, white, doz.	2.50 @ 2.75
Mixed, per doz.	2.25
Dark, per doz.	1.50
Spring geese, Eastern, lb.	20

FROZEN.

Turkeys—	
Young hens & toms, No. 1	17 @ 19
Broilers, d. p., No. 1	19 @ 21
Broilers, scalded, No. 1	16 @ 18
Capons, choice, heavy	21 @ 22
Medium size	19 @ 20

APPLES AND PEARS.—

Apples—	
Jersey, per bbl.	1.50 @ 3.00
Southern, per bbl.	1.25 @ 2.50
Small, per basket	30 @ 60
Bushel crates	60 @ 1.00
Pears—	
LeConte, fancy, bbl.	3.00 @ 3.50
Choice, per bbl.	1.50 @ 2.50
Nearby, common, per bbl.	1.25 @ 1.75

GREEN FRUITS.—

Pineapples—	
Ind. River, 24s, Red Span.	3.00 @ 3.25
Indian River, 30s	3.00
Indian River, 36s	2.75
Muskmelons—	
So., crates, large, selected	2.00 @ 2.75
Choice, crates	75 @ 1.50
California, crate	5.00 @ 7.50
Texas, crate	2.25 @ 2.75
Watermelons, per 100	12.00 @ 22.00
Per car	125.00 @ 175.00
Steamer ship., per car	80.00 @ 150.00
Peaches—	
Georgia, average, carrier	1.75 @ 2.25
Elbertas, carrier	1.50 @ 2.25
Belles, carrier	1.50 @ 2.50
Blackberries, Wilson, per qt.	6 @ 10
Huckleberries, l'ge, blue, qt.	9 @ 11
Small, per qt.	6 @ 8
Plums, per carrier	75 @ 1.50
8-lb. basket	25 @ 35
Gooseberries, per qt.	6 @ 9
Raspberries—	
Jersey, per pint	4 @ 6
Up-river, per pint	5 @ 7
Currants, per qt.	8 @ 10
Cherries—	
Black, sour, per basket	90 @ 1.00

VEGETABLES.—

Cabbage, Baltimore, per bbl.	75 @ 1.00
L. I., Wakefield, per 100	5.00 @ 6.50
Flat Dutch, per 100	6.00 @ 7.50
Cucumbers—	
Baltimore, per basket	30 @ 50
Jersey, bu. box	50 @ 1.00
Norfolk, bbl.	50 @ 75
Cauliflower, per bbl.	1.50 @ 2.00
Celery, fancy, doz.	40 @ 50
Good to choice, per doz.	15 @ 35
Eggplants, per box	1.25 @ 1.75
Green corn, per 100	75 @ 1.50
Lettuce, nearby, per bbl.	1.75 @ 2.50
Boston, per dozen	40 @ 60
Lima beans, ½-bbl. basket	3.00 @ 4.00
Peas—	
Western N. Y., basket	75 @ 1.00
Long Island & N. J., bag	50 @ 75
Peppers, Jersey, box	75 @ 1.25
Southern, carrier	50 @ 1.00
String Beans—	
Nearby, ½-bbl. basket	50 @ 75
Wax, per basket	50 @ 75
Western N. Y., bu. basket	90 @ 1.12½
Boston, bu. box	75 @ 1.00
Squash, So., white, bbl. crt	50 @ 1.00
Marrow, bbl. crate	1.00 @ 1.25
Yel. crooked neck, bbl. crt	75 @ 1.00
Turnips, white, 100 bunches	1.00 @ 1.50
Russia turnips, bbl.	1.00 @ 1.50
Onions—	
Yellow, basket	60 @ 75
White, basket	75 @ 1.00
Kentucky, bbl.	1.75 @ 2.00
Bags	75 @ 90
Tomatoes—	
Jersey, per box	90 @ 1.25
Acme, per box	1.50 @ 2.00
Western, trays	50 @ 75

POTATOES.—

Long Island, prime, per bbl.	2.25
Jersey, prime, per bbl.	2.00 @ 2.25
So. Rose & Hebron, No. 1, bbl	1.50 @ 2.25
Chilis, No. 1, per bbl.	1.25 @ 2.00
Seconds, per bbl.	75 @ 1.00
Sweets, So., red, per bbl.	3.00 @ 3.50
Jersey, old, per bu. crate.	75 @ 1.50
Yams, So., white, per bbl.	3.00 @ 3.25

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Explanation of Market Terms.

The market quotations of fertilizers and fertilizer materials are certain terms which may not be familiar. For instance, tankage or any other material containing nitrogen may be quoted at a certain price "per unit" of ammonia, and elsewhere you may find the price of potash salts or phosphoric acid as so much per unit. In the fertilizer trade these things are always sold by the unit, a unit being one per cent. on the basis of a ton, or twenty pounds of the ingredient named. A unit of ammonia, then, at $2.50 would mean that the ammonia is worth 12 cents per pound. Reduce this to nitrogen and you will find that at this price the actual nitrogen costs a little over 14.5 cents per pound. Then when muriate of potash or sulphate of potash are quoted 80 per cent. In the case of the muriate, it does not mean that there is 80 per cent. of potash, but of the muriate pure, which would make the actual potash 50.56 per cent. If high grade sulphate of potash is quoted at 90 per cent. it means that the actual potash in it is 48.6 per cent. In other words, to find the actual potash in muriate, multiply the percentage by 0.632. To get the actual potash in the high grade sulphate multiply the percentage by 0.54. The same rule will apply to the double manure salt or low grade sulphate of magnesia-potash.

AGRICULTURAL FERTILIZERS.

AMMONIATES.

Nitrate of soda, per cwt.	2.05 @ 2.10
Sulphate ammonia, per cwt.	3.20 @ 3.25
Tankage, per unit ammonia	2.12½ @ 2.15 and 10
Dried blood, N. Y., low grade	2.60 @ 2.65
do West., high grade, fine ground	2.65 @ 2.70
Cottonseed meal, ton, c. i. f. N. Y.	27.00 @ 28.00
Fish scrap at N. Y.	2.55 and 10

PHOSPHATES.

Acid phos., 12-16 p. c., unit	60 @ 67½
Bone black, per ton	18.00 @ 19.00
Ground Bone, per ton—	
Steamed, f. o. b., Chicago	18.00 @ 19.00
Raw, f. o. b., Chicago	22.00 @ 23.00

POTASH.

Muriate potash, 80 p. c., future shipment	1.88 @ 1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11 @ 2.20
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.12 @ 1.24
Manure salt, in bulk, 20 p. c. per unit, O. P., basis 90 p. c.	64

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@33
X	28@30
Medium	30@32
Quarter blood	28@30
Common	26@28

UNWASHED (light and bright.)

Fine	20@23
Medium	23@24
Quarter blood	23@24
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@18
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaines	33@35
Washed medium	32@33
Washed low	30@32
Washed coarse	28@30
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	21@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

To P.F. Boys and Girls

We want one boy or girl under 20 years of age in every family represented on The Practical Farmer subscription list to send us $5.00 for a club of 50 trial subscriptions. These trial subscriptions will be only 10 cents each, commencing when we receive the subscription and ending Jan. 1, 1904. We will give a year's subscription to the Youth's Companion to every boy or girl who sends us one of these 50-trial subscription clubs. The Youth's Companion is the best young people's paper published. Every boy or girl who sends us one of these clubs will be delighted with the prize. We want every P. F. family to engage in this contest. All prizes, no blanks. Fifty trial subscriptions to Jan. 1, 1904, at 10 cents each, will entitle the club raiser to the Youth's Companion for one year free. Send the clubs direct to

THE PRACTICAL FARMER,
Philadelphia.

We will send 50 free sample copies and subscription blanks to every boy or girl who will send us name and address and say they will try to raise a club.

Editorial Chat.

The Business Management of the P. F. fairly takes our breath away sometimes. Just read what precedes this. The P. F. for the remainder of the year for only 10 cents is big enough and generous enough for anybody. And then to give a year's subscription to the Youth's Companion to any boy or girl of the P. F. family who will make up a club of 50 of these 10-cent subscriptions caps the climax. If every family of P. F. readers does not get up one of these clubs, we shall be really disappointed. Putting the offer at the head of this department rather makes it a Home Circle matter, too, so we feel that the honor of the H. C. boys and girls is at stake, and nothing but a generous response to this proposition will be satisfactory. Now we propose that all the boys and girls in each P. F. family unite and work together in getting up one of these clubs, and then when the Youth's Companion comes to them each week as a reward for their efforts, they can all feel a kind of a joint proprietorship in it. Send 50 names and $5 for same, and the Youth's Companion for a year is yours. We want one club from each family which takes the P. F.

* * * * * * * *

A while ago we clipped a bit from somewhere, intending to send it to the H. C., but hardly think we did. It told of seeing a man cut the household department from a paper he was reading, in which were all sorts of directions and recipes. The beholder thought, "What a model man; he is interested in all that pertains to the family life! He is going to preserve those recipes for his wife."

When finally approached on the subject, however, the reader bluntly admitted that he had cut the department out so that his wife would not see it. He was tired of living on the stuff she made out of new recipes. It seemed she had a mania for trying everything she read. Of course the department was not in the P. F., or he would have been delighted at the results of her experimentations, if she had ordinary ability. Here is another amusing bit, in rhyme, along the same line, from somewhere:

A woman there was, and she wrote for the press,
(As you or I might do),
She told how to cut and fit a dress,
And how to stew many a savory mess;
But she never did it herself, I guess
(Which none of her readers knew).

Oh, the hours we spent, and the flour we spent,
And the sugar we wasted like sand,
At the behest of a woman who never had cooked
(And now we know that she never could cook)
And did not understand.

A woman there was, and she wrote right fair
(As you or I might do)
How out of a barrel to make a chair,
To be covered with chintz and stuffed with hair,
'Twould adorn any parlor and give it an air
(And we thought the tale was true).

Oh, the days we worked and the ways we worked
To hammer and saw and tack,
In making a chair in which no one would sit,
A chair in which no one could possibly sit
Without a crick in his back.

A woman there was, and she had her fun
(Better than you and I),
She wrote recipes, and she never tried one,
She wrote about children—of course, she had none—
She told us to do what she never had done
(And never intended to try).

And it isn't to toil, and it isn't to spoil,
That brims the cup of disgrace—
Its' to follow a woman who didn't know beans
(A woman who never had cooked any beans)
But wrote, and was paid to fill space.

* * * * * * * *

Two of our readers in Glenville, N. C., write: "We read something in the P. F. some time ago concerning a special make of shoes for the benefit of children who 'toe in' in walking. One of us has a baby eighteen months old whose little feet are worse than the ordinary toeing-in child's, and think perhaps these shoes might help if we knew where to get them." Now, we do not recall this matter, and if whoever knows will send information direct to Mrs. Ida Wilson, Glenville, N. C., it will be a great favor, both to herself, her friend and to us.

* * * * * * * *

"A Subscriber and Reader," Girard, Kansas, writes: "From reading 'Our Shut-Ins,' of June 6th, I have been wishing something could be done to add to their comfort this summer, and it occurs to me that a hammock for each, from the H. C., would be a very slight tax on us and would be a blessing to them. I would gladly contribute to each and I believe many others would deem it a privilege." We endorse the above and to hasten matters, as the heated term is upon us "in full force" evidently, let each one who wants to aid in this send direct to the afflicted parties. We do not understand that our Glensfalls sister is in need of aid of this sort. She has the comforts of life about her. For her and her sister the sympathetic message, the newsy, entertaining letter, an envelope full of clippings, pictures, choice reading, anything to break up the monotony and help forget pain are the things requested.

Miss Ellen Kinney, Brockport, N. Y., is without means to purchase the little comforts, indeed the necessaries ofttimes, of an invalid life. She is very ill and suffering all the time. Anything tending to mitigate her suffering is certainly "lending to the Lord," in whom her heart trusts.

Miss Willie Jane Sheppard, Wedowee, Alabama, is also without means. Her parents were slaves and there is a large family. She privately writes us of conditions in the South in a most intelligent manner. She has acquired, for the opportunities she has had, a remarkable education. Indeed her penmanship, composition and handling of the questions of the day, especially the "race problem," would put to shame the efforts of two-thirds, if not more, of the current year college graduates. There is no bitterness, no complaint, only an intelligent statement of facts, and between the lines one can read the prayer for common justice.

As we laid the letter down, a letter written at our request and in reply to direct questions, we could but say: "God help the Nation and the Negro." In our mind there is an uncertainty which needs it most. In her crippled condition a hammock would be a great comfort, we should think. In the note accompanying her photo, she says: "I must sit as you see me all the long days till I die. I just drag myself on crutches when I must move." How we wish that some of the money worse than wasted on the death-dealing automobile could go to buy wheeled chairs for such as this. Speaking of Miss Sheppard's photo, it will be about the first of September before she can supply those sending for it. A friend gave her the money to have this one taken and the artist has gone away. We will return this to her and she will have some copied from it. Parties sending in their orders now will be sure to get them filled in due time, and it will give her some idea how many to order.

"We shall not pass this way again," and the little sunshine we can manufacture today may be all we will ever have a chance to do.

All in a Lifetime.—Part 4.

VELMA CALDWELL MELVILLE.

Whatever Dr. Glen may have discovered from Patty Pearl's delirious ravings during those terrible weeks of fever, the neighbors learned nothing, for he brought a nurse from town—a woman hard of hearing—and forbade all save her and Aunt Ruth in the patient's room. In vain Mrs. Waddle offered to come over and "set up;" in vain she begged to do something, urging her right as "an intimate friend" who loved the girl as she did her own daughters. Aunt Ruth was obstinate; she was not going to take the risk of disobeying the doctor's orders

The neighborhood was scandalized; never had anyone but the Holland families had a hired nurse. The neighbors always took turns night and day, reporting faithfully to each other every symptom, every word, and expressing their opinions freely and diagnosing the case according to their individual notions. The Hollands had been the great folk of the township five years before, but had all moved away. Their doings had afforded food for the gossips all the years after the sons brought home fashionable wives. It had become sort of tradition that once Mrs. Fred Holland lay ill for six weeks and not a soul saw her but her folks, a nurse and the doctor. And worse still, when the old lady died there wasn't a person in the house but the family—she was only sick three days—and they—the daughter and two daughters-in-law—actually "laid out the corpse with their own hands and afterward dressed the body, not even letting a neighbor help." This was indeed a grievance hard to be borne, as there were from six to ten ladies in the neighborhood who were wont to assemble and perform these little offices for the dead, and, as they expressed it, "had just as lief as not;" it was a sad satisfaction.

"Now," said Mrs. Greely, "like as not Patty Pearl'l die 'nd we won't even git to dress her."

"It's outlandish!" declared Mrs. Waddle. "Jeff, why don't you assert yer rights?"

"I haven't any," was the cold reply, as the tortured youth strode out of the kitchen.

"I can't make Jeff out at all," his mother said fretfully, as she wiped her hands on her apron and watched his retreating form. "He won't talk 'nd he won't eat, 'nd I surmise he don't sleep. He's meachen his life away about that girl I do believe."

Poor Jeff! Between the fear of Patty Pearl dying, the wild jealousy toward Dr. Glen and the nagging at home, he was well nigh desperate. It would have been easier but for that glimpse he had had of her heart; and yet he could not have wished it otherwise. The knowledge that she still loved him was sweet despite the bitterness. It did not occur to him to go to any lengths to prevent the marriage. He had lived a quiet, simple life in which there had been neither romance nor reading of romance. Marriage was, in his eyes, a sacred, binding thing, and courtship not to be trifled with. If Patty Pearl did not break with Dr. Glen of her own free will, he could and would do nothing. But life was a thing hard to be borne by the suffering youth, doubly so when his mother and aunt were talking, guessing and surmising.

It is fair to suppose that Patty Pearl revealed the true condition of her mind and heart during her illness; but between her aunt and the doctor it was only spoken of as "what she says when she's out of her head," and counted for naught. It was early October when Patty Pearl once more wore a dress and sat at the table. She was like a sweet little ghost of her former self, but she seldom smiled and there was a far-away look in her eyes.

Alone in his office Dr. Glen fought it out with himself and self conquered. He believed that she loved Jeff Greely more than himself; he knew that the manly, honest thing to do was to give her up; on the other hand, he tried to believe that she cared a little for him and that he could make her happier than "that rustic of a Greely" could. He loved her madly and had a right to consider his own feelings as well as those of others. If she would ask for her release—well that would be different. When the battle ended the better man in Dr. Harry Glen had been thrust through, and this was what he reported to Aunt Ruth:

"She is too delicate to spend the winter here. We will not wait for Christmas, but be married in about a month and go South. I have a half sister in Missouri who will make her welcome. You mention the matter to her when she seems to be feeling her best. Let the wedding be very quiet; she cannot stand excitement."

Aunt Ruth heaved a sigh over the demolition of all her little wedding plans, but never once thought of disputing his right of way. She watched for her chance and it came that afternoon.

Patty Pearl was enjoying the sunshine in her hammock on the porch, when Jeff Greely came driving by. When he saw her, he suddenly reined up, then made as if to go on, but she smiled and waved her handkerchief. In another minute his horse was tied and he was beside her.

"You are getting well, Patty," he said as he held out his bronzed hand and, for a moment, she let both her little white ones rest in it.

"I'm so glad; but you're mighty thin. O, Patty!"

She lay back on her pillow and looked at him. But Aunt Ruth was coming now, and they were talking of the weather. He only staid a few minutes and that time was spent telling about a felon on his father's finger, and then he went away, but he knew the girl's shining eyes were following him. Aunt Ruth, knitting briskly, concluded by the happy look on Patty Pearl's face, that she must be "feeling her best," so she delivered the doctor's message. A moment the girl looked at her in silence. She seemed dazed, then she burst out:

"Don't let him take me now, Aunt Ruth, don't! O, I can't go away from you, away off among strangers. I don't want to marry at all. I want to stay with you. O, Aunt Ruth, say I may!"

To say the good woman was surprised is to put it mildly.

"Why Martha Pearl Winthrop, I never heard of such a child! The idea of not wanting to marry and go away with that good man who has literally saved yer life. Why, Patty Pearl, ye have no idea what that man has done fer ye. Jest set here day 'nd night 'and ye a raven 'nd burnen up with fever. Hours to a time he's held your hands or bathed your head, or fanned ye. When you was at the worst he used to go out in the kitchen or on the porch and walk back 'nd forth like one c'ean daft. Ye can't go back on him, child!"

The girl was shaking like one in a chill before her aunt noticed, but all she said was:

"Put me in bed, won't you?"

She had to be put to bed like a babe, and Mrs. Westover was not a little alarmed. "Please don't let me be disturbed again today—or tonight. I do not wish to see anyone—not anyone."

Her aunt looked in frequently, but the girl either was asleep or feigned to be until her supper was brought in. Then she sipped a little tea and ate half a toasted cracker.

"I don't think I'm hungry tonight," she apologized, adding: "You might leave a cracker on the stand and if I want it I can—"

But her Aunt Ruth burst in:

"Now Patty Pearl Winthrop, after all these weeks I've waited on ye night 'nd day, I guess you needn't take a cold snack in the night by yourself now. If you are awake and want a bite just say the word. Anyway I dun no but I better sleep here on the lounge tonight. 'Pears to me yer hands feel kinder feverish."

"No, no indeed, aunt, it is not at all necessary. You shall sleep in your own bed just as you have ever since I got better. Leave the door open and I can speak if I want anything."

Dr. Glen came out early the next morning, and it was well he did, for Patty Pearl's fever was on again and she had tossed and moaned since midnight. A few questions made the whole matter clear to the doctor.

Aunt Ruth's "chance" had proven an unlucky one, and it did not tend to the man's self-gratulation that it was the presence of Jeff Greely that had cheered her up so.

Patty Pearl was quite ill again for a week or more, but she was young and naturally strong, and she rallied despite the thought in her mind, that was almost a wish in her heart that she might die.

Nothing was said on the subject that lay nearest all their hearts. It was one warm Sabbath afternoon and Patty Pearl had fallen asleep in the hammock. The doctor came softly up the walk, warned by a gesture from Aunt Ruth, and sat down. The latter went to attend to some household duty and the lover had opportunity to study the fair, sweet face and to note what he had not seemed to see before, a look of sadness. It was only fancy he assured himself, when with a restless motion of the hand, and a slight turning of the head, she murmured, "Jeff, Jeff."

(*To be continued.*)

Our Shut-Ins.

Ellen Kinney sends names of donors to her quilt, as she has been requested to do. We will omit them, however, adding only that she is still fourteen blocks short of enough. She has received twenty-six. Remember, these blocks are to be one foot square, crazy pattern, sewed on sheet wadding or firm cloth. Embroider the joinings and put name somewhere on block. Material, worsted, velvet or silk. Miss Kinney will personally answer all letters when a stamp is enclosed. She has no money of her own and her mother is not circumstanced to give her any.

We are in receipt of Willie Jane Sheppard's photo. She is a bright, gentle-looking girl. The picture fully shows her poor deformed feet and hands. We think anyone desiring a picture could obtain it for 25 cents. She has not authorized us to say this, but we make the venture. A number have expressed a desire to see a photo of her. It would not be advisable to put it in the P. F. as has been suggested.

Something About Wonderful Helen Keller.

MRS. H. P. RIVES.

Those who were not fortunate enough to read "The Story of My Life," by Helen Keller, in the Ladies' Home Journal, have missed a great treat. Through a dreadful spell of illness the doctors called acute congestion of the stomach and brain, at the age of one year, she lost two of her most useful senses, those of seeing and hearing. Just think of a girl who is deaf and blind completing a full college course, taking rank with the best in her class and standing every examination as it is given to the class. She is quite expert in the use of a typewriter. She writes with such fluency and ease that her articles command the highest praise and prices from some of the best periodicals. This is what an editor says of her at the beginning of the publication of her series of articles: "As the feat seems almost incredible, it may be in order to say at the beginning that every word of this story, as printed in The Journal, has actually been written by Helen Keller herself: not dictated, but first written in 'Braille' (raised points) then transferred to the typewriter by the wonderful girl herself: next read to her by her teacher, by means of the fingers, corrected, then read to her, and in the proof finally read to her once more." John Macy says of her: "At twenty-one Helen Keller is in the front rank among the students at Ratcliffe College, which she entered without condition, in the fall of 1900. In her preparation for college she has learned French, German, Greek and Latin, so that she has a fair acquaintance with the literature of those languages. She knows enough English literature for her to get a degree if she wanted to, and she has studied elementary algebra, geometry, Greek and Roman history and freshman rhetoric. She has taken sophomore English composition and history of Europe in outline from the fourth to the sixteenth century. A course in Milton, a course in the Bible, one in government and one in Horace and Terence. If she takes four courses a year she will graduate with the class of 1904 at the age of twenty-three. Is it not wonderful, and is not her life and character worthy of study and deep thought by those of us who are in possession of all our faculties?" Mr. Charles T. Copeland, who has been for many years instructor in English at Harvard and Ratcliffe, and lecturer on English Literature, said recently: "In some of her work she has shown that she can write better than any pupil I ever had, man or woman. She has an excellent ear for the flow of sentences."

Bell, Ky.

Youth's Parliament.

Leila Lasley, Latowelle Falls, Ore., writes: Dear Mrs. Melville: I have thought several times that I would write to the Y. P. My father has taken the P. F. for about three years and we like it very well. I always like to read the children's letters. We live on a small farm and have a nice garden, a few chickens, two calves and a real good cow. I am 14 years old and in the 8th grade at school. I must close, and if I see this in print I may come again.

Mai Sisseck, Mulhall, Okla., writes: Dear Mrs. Melville: I will write for the pleasure of writing. I was eleven years old the first of last May; am four feet ten inches high, and slim. This is a nice country. Papa takes the P. F. and I like to read it. I have two old dogs and cats, and one of the dearest riding ponies. Her name is Fanny. I like to feed the chickens. I won't write any more as this is my first letter.

[Come again and tell us about Okla.—ED.]

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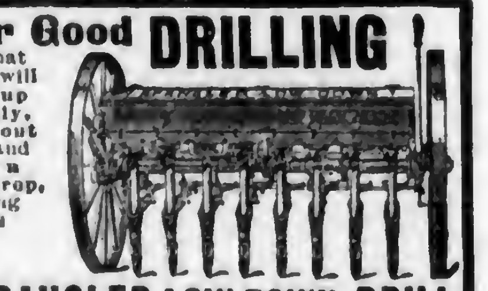

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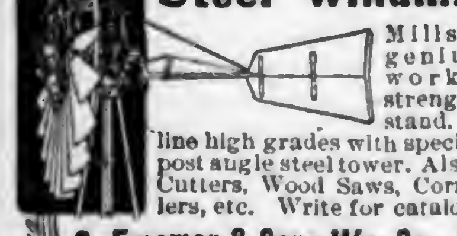

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Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 586, Aug. 22.—*What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in September?*

Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 583.—Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?

J. Lewis Lee, Conway, S. C.—So much depends upon what is considered successful farming that I scarcely know what to say. I will say, however, that if it is considered successful farming to compete favorably with those who depend entirely upon the commercial article to the exclusion of the home-made manure, as against stock raising and using stable and barnyard manure, I would most emphatically pin my faith on the latter method and I believe I would come off winner. As it has been pointed out time and time again in the pages of the P. F. the foundation of all good, successful farming the world over (and the South is certainly no exception to the general rule) lies in the keeping of stock and in carefully handling the manure and promptly returning same without waste to the land to keep up the fertility of the soil and the supply of humus, without which we cannot reach the highest peak of success. I think that it is possible, from what little experience I have had in the South on ordinary red clay upland, to use the latter plan and be fairly successful. But to say that I could reach the highest degree of success by that method, I have my gravest doubts. The land varies so much in its character, some soils being deficient in phosphoric acid and some in potash and some in both; the live, up-to-date, practical farmer, cannot afford to stint his crop and fall short of making a maximum crop, when by supplying a little of the mineral ingredients at the cost of about $4 at the most, he can realize perhaps $15 to $20 more by making such an investment. One of the greatest drawbacks in Southern agriculture is the indiscriminate use of commercial fertilizer, using any and all brands without regard to their content or the needs of their soil, which to me seems the very height of folly, buying the ready mixed article and paying dearly for mixing, and after all, maybe getting a lot of stuff that they do not need at all, in order to get a little they really need and need badly. What we do really need, brother farmers, is a more liberal use of our brains in the business we are following. Grow the cow pea in the summer and gather your nitrogen and lock it in the soil through the winter by the living roots of a cover crop, and, better yet, let the faithful vetch gather yet more nitrogen through the winter and early spring. In this way you may be independent of commercial nitrogen, which is really the most expensive element we buy, and if you find after careful experiment that you can drop the potash or the phosphate, or both, and get maximum crops without the aid of the commercial article at all, happy are ye. But I am satisfied that it is not so much a question of what we can do without, but what we can best do with, in order to be truly successful in our noble calling. As a rule, we are covering too many acres for the amount we can realize at harvest. Let us put the same work on a smaller acreage and what we do do well, and the results will, I am sure, be surprising as well as gratifying and profitable.

A. J. Umholtz, Tum, Ark.—Yes, I think it can. In fact, it is the only way for farmers to do here on the mountain. There are no commercial fertilizers kept in our railroad towns to my knowledge, and if there were we would have to haul them 13 miles up the mountain 1,600 feet higher than the railroad, which I should judge would not pay for expense of having it shipped and haul so far over mountain roads. If I did not think that I was making a success of farming at present without the use of commercial fertilizers, I would quit the farming business. I am making my land produce more per acre year after year by saving and making all the manure I can, and hauling out on the land that needs it most before any rain leaches it. Also have a three year rotation of crops, in which, two seasons out of the three, some leguminous crop, such as cow peas, clover, etc., is growing on the land either with or without other crops, thus trying to keep plenty of humus in the soil; and plowing and cultivating so as to continually increase the depth of the soil. By this plan I expect to double and treble the productiveness of the soil, and make the crops not only larger, but nicer and of more salable quality, thus increasing the profit 300 to 400 per cent.

Robt. F. Linville, Winston-Salem, N. C.—In my section commercial fertilizer is cussed and discussed daily, but practical experience shows that we could not farm successfully without it. Our land is deficient in some substance that cannot be supplied otherwise. I have frequently noticed short distances in wheat fields were the drill failed to feed the fertilizer and the wheat would not be large enough to save. I have also had skips made for a short distance in tobacco and it would neither have the proper weight or color. Doubtless all of us could raise more cattle and accumulate more manure (the great domestic fertilizer), but we cannot make enough to supply all our needs, and both together act with much more force.

O. P. Nixon, Clinton, Ark.—Yes, if you have good land to start with. But on the poor and worn soils it would be advisable to use commercial fertilizers for a while at least. I have been farming the same land for 15 years and have never bought a pound of fertilizer and my land is far better than when I commenced. I am sure the farmers of the South would be more successful and save the most of their fertilizer bill if they would practice what the P. F. has been teaching for years. It is simply this: Keep more stock, save the manure, rotate your crops. We have nearly one head of cattle for every acre in cultivation, and five or six head for every bale of cotton raised and we rotate our crops of corn, cotton, wheat and peas. We are succeeding and would not buy fertilizers at one-third of the present prices.

A. G. Higgins, Belwood, N. C.—My father, when I was a boy, 25 years ago, lived on a farm in Western North Carolina. He grew corn, wheat and clover. We also raised hogs. Our corn usually made 40 to 60 bushels on the bottom land. Once every three or four years we seeded the bottom in bearded wheat and it yielded from 16 to 25 bushels to the acre. We grew clover on the upland, and occasionally corn, but more often wheat on the clover sod, where we broadcasted all the manure we had on hand at wheat-sowing time, and we sometimes averaged 32 bushels to the acre. We never used one pound of commercial fertilizer, and this was before cow peas were so much grown. I married in the cotton section and settled here, and I find the farmers all say they cannot raise cotton and wheat successfully without commercial fertilizer. But I believe with the proper rotation of crops the sowing of peas, clover and crimson clover and rye for a winter cover, and the keeping and feeding more stock to make more manure, and tilling less acreage, we can get on successfully with very little commercial fertilizer.

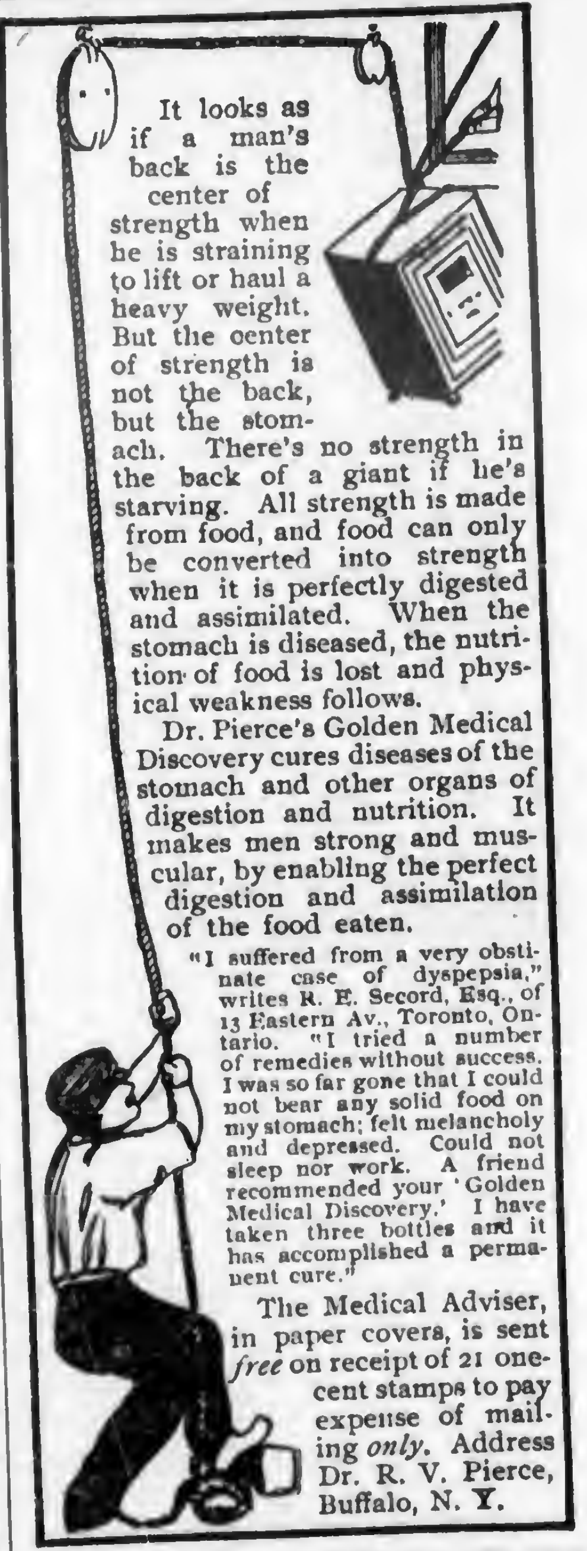
Enos C. Pittman, Poindexter, Ark.—I suppose that a person could raise fair crops on a small scale without the use of commercial fertilizers anywhere in the South by using their barnyard manure in a judicious manner. But there are parts of the South that produce paying crops without the use of fertilizers of any kind. Here in Eastern Arkansas there are no fertilizers of any kind used. I know land here that has been under cultivation for fifty years and still produces fair crops without fertilizers. Last year I made $800 worth of cotton on 25 acres without fertilizers, and old citizens say the land has been worked in cotton for ten successive years. Yes, land can be made to yield a living without commercial fertilizers; but to work your land without trying to hold up the fertility is just like "checking" on a bank account without making new deposits. The time will come when your checks will not be honored.

C. M. Hunt, Gamble's Store, N. C. — A knotty but most important question. Farming can be done in the South without commercial fertilizers. The virgin lands of the South must be among the most productive in the country. Restore these lands, which have been almost exhausted of fertility by bad farming and you may successfully farm without commercial fertilizers. But to do this will require a radical change in our farming. Each farmer must adopt a systematic rotation of crops suited to his individual condition; he must keep and feed stock sufficient to make manure to manure all the land he cultivates, and farm intensively. This abolishes the one-crop system, moves the Southern granary, smoke house and hay press from the far West to a more convenient place, without which farming cannot be a success in the South. But may not the term "successfully," as used in this topic be modified? If I farm one acre of land and the net proceeds are $20 it could hardly be said that my farming is not successful. If I increase proceeds by using commercial fertilizers am I not more successful? In my opinion farming can be successfully done without commercial fertilizers. The best farmers of the South are those who use the fewest bags of guano.

H. C. Boone, Wolf Creek, Ky.—In presenting a few ideas on this subject it will be noticed that I am in Kentucky, which is not geographically speaking, South. However, aside from cotton raising our farming runs along the same line. While I would love to say yes to this important question, observation and experience have proven the contrary. The generation that preceded the present day farmers in the South had many acres in its virgin state. It was their rule to clear off the timber and then crop it for what it is worth. After it failed to produce something like a paying crop it was abandoned and turned over to broom sedge or some other growth that might spring up spontaneously. And so vast acres were thrown aside as useless, new fields were cleared and cropped with little care for the future husbandman. And so it is today. Forty years ago there was little known of commercial fertilizer in this section. The Ohio River bottoms and the valleys along small creeks and rivers still produced bountiful crops of corn. But the hills, the uplands back from the river, were hardly growing enough truck to keep the "wolf from the door." How is it now? These same sections are rivals of the richest bottom lands. Wheat by the thousand bushels and hogs and cattle are being shipped from points where 35 years ago such a thing was not dreamed of. No, the South cannot dispense with the commercial fertilizer, but she should learn to use it with a correct system, not be like the "nigger" when asked by a passerby what he was plowing that corn for. His answer was "To feed dat mule." "What do you feed that mule for?" "To plow dat corn." That hand-to-mouth farming will never benefit a country or the man that follows it. Make your fertilizer grow your clover, your grasses of all kinds, your cow peas. Rotate properly and your country will soon blossom as the rose. This I have seen and know it can be done. 'Tis true we spend much money for fertilizer and we are making many people rich by its use, but to bring our exhausted soils back to a paying point, at the same time reap a little income for "the sweat of our brow," we must continue its use as a helper for this purpose.

SUMMARY.

The question is, "Can farming be successfully done in the South without the use of commercial fertilizers?" This will, of course, depend on what part of the South is taken into consideration. On the virgin soils of Texas the question is easily answered in the affirmative, and there are other parts of the South, as in the fertile delta of the Yazoo and other streams where the soil seems of inexhaustible fertility. But the question applies more to the worn and wasted cotton lands of the South, and to the lighter sandy soils of these parts of the country. On the red clay uplands of Upper Georgia and the Upper South in general it is certainly possible to farm and improve the lands without the use of commercial fertilizers. As we have time and again said, a soil of good mechanical composition like these red lands may become unproductive through bad treatment, but it can never be really worn out. It may be deficient in readily available plant food, but proper tillage and plowing and the use of recuperative crops to restore the humus, with the feeding on the land of legume crops and corn will certainly restore the land to its pristine fertility without the aid of commercial fertilizers. But the possibility of so doing is not exactly the question. Good farming is that which gives the best immediate results while building up the soil to greater productiveness, and the good farmer will always avail himself of the best means at hand for aiding in the rapid improvement of his crops and the permanent development of the productive capacity of his land. Commercial fertilizers, rightly used, can be made the most efficient instruments in this improvement that the farmer can apply. The whole trouble with commercial fertilizers in the South arises from the fact that they have not been properly used. Used as they have been in the past the result is seen all over the South in wasted and abandoned old fields, from which the little dribble of fertilizers in the row has enabled the farmer to rob the land of the last available vestige of productiveness. Fertilizers have been used in small amounts merely to force from the soil year after year a little more cotton and cottonseed to sell, and the scratch plowing has aided this impoverishment, while all the while right below the scratch of the little one-mule plow there lies the unexhausted soil waiting for someone with knowledge and pluck enough to break into it and reap larger harvests. In the restoration of these lands there is nothing that will more profitably help the improving farmer than artificial fertilizers. It is possible with the commercial fertilizers and the legumes to bring up the land to great productiveness in cotton and other crops, even without live stock. But it is far more profitable to feed live stock and save the manure in connection with the use of commercial fertilizers. Experimentally, we have brought up this red clay soil to great productiveness with no commercial fertilizers in fourteen years past, but we could have done it more rapidly and profitably by using them in the proper place. With the exception of tobacco and the market garden crops we do not think that on a properly conducted farm there should ever be any need for the purchase of any complete fertilizer; that is, one in which the costly nitrogen is a part. With the ordinary farm crops of corn, oats, wheat and cotton we know that the best and most profitable crops can be grown on the red lands with acid phosphate alone and on the gray and lighter soils with the addition of potash. The important question is, where in the rotation of crops will the fertilizer pay best? The numerous experiments that have been made at the Stations all over the country for testing the manurial needs of various crops have had the effect of causing the farmer to suppose that for every crop sown or planted he must have a special fertilizer formula. It may seem, too, and probably will be shown, that the use of these formulæ increase the crops made, but as compared with a proper rotation and use of fertilizers one may soon discover that the apparent profit was fictitious, and that a large part of the outlay could have been profitably saved. It is not the mere getting of larger crops that we are after, but the getting of increased crops at the smallest cost. Immense crops of corn or other crops are often grown on pet acres when treated without regard to expense, but these premium crops cannot be taken as what the farmer can profitably produce. What we should endeavor to do is to constantly increase the productiveness of our soil, while making it pay well for the improvement. In the first start with a run-down farm one may profitably employ fertilizers for immediate effect, using them liberally enough to affect to some extent the following crop. But when one has, through a good rotation, gotten his land into a better shape we are just as strongly of the opinion as ever that the use of mineral fertilizers, so-called, that is phosphoric acid and potash only, on the recuperative crops will be all that is needed, especially in the case of the cotton farmer, if he exchanges his cottonseed for meal and hulls and either applies them directly to the land or uses them judiciously in a well arranged ration for the feeding of stock, and the making of manure. The greatest of all drains on the cotton farm is the selling of the cottonseed. The lint cotton hardly takes anything from the soil, but the seed robs it of nitrogen, phosphates and potash, and the wise cotton farmer will always return the seed or its equivalent in meal and hulls to the land, since the taking out of the oil, which came from the air, does no harm to the land. What we should aim at is a good short rotation of three or four years, endeavoring to feed all the stock the corn, peas and other forage will support so as to get all the manure possible for the corn crop, the feeding of which is to help us in the manure making and the making of profit out of stock. Then, if we finally have enough of this manure to cover the corn land it will carry the winter oats well, and these followed by peas heavily dressed with acid phosphate and potash to make another forage crop for the cattle to balance the corn can be followed by the cotton with the cottonseed meal only if the application of acid phosphate and potash to the peas has been liberal. The cotton crop will then be grown at a far less cost and after a few turns of the rotation the farmer will see the effects in the improvement of his land. With a poor piece of land it may, as we have said, be profitable to use the fertilizers on all the grain crops, but when one has gotten into the stock feeding, the growing of forage for them and the making and saving of manure, the only fertilizer it will pay to use is the liberal application of acid phosphate and potash to the peas, and the peas will do the rest, making the cotton and making feed to grow more corn and forage.



It looks as if a man's back is the center of strength when he is straining to lift or haul a heavy weight. But the center of strength is not the back, but the stomach. There's no strength in the back of a giant if he's starving. All strength is made from food, and food can only be converted into strength when it is perfectly digested and assimilated. When the stomach is diseased, the nutrition of food is lost and physical weakness follows.

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Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Prefers to Buy Hay Slings. — After reading the article on hay slings, published recently in this department, I will take the liberty to state that great precaution should be taken in using home-made hay slings. All that I have ever seen yet are very uncertain contrivances when compared to good factory ones of standard make, such as the "Myers." Having several accidents in the neighborhood, one in our own family, resulting from poorly constructed hay slings, we had a steel track put in our barn, then purchased a track carrier and slings at a cost of less than $15, everything done. We then had an outfit that we could depend upon. We use only three slings instead of four, thus saving time. By having one man drive the team, another to pull the rope and pulleys back and hitch them, and a third to trip the slings in the mow after they are elevated, we have unloaded and spread a large load of hay over a 40-foot mow, replaced the slings on the wagon and backed out of the barn ready to return to the lot for another load, in just seven minutes. And when in the lot we have, by the use of a hay loader, put on large loads, stopping twice to place the slings, in less than eleven minutes. No doubt the home-made slings mentioned above are all right, for nearly every tool has its advantages, but I think the cheapest in the end, and the safest, is to buy one already made.

Woodford, O. G. YEAGER.

[Generally speaking, we believe friend Yeager is correct in recommending the "ready made" sling. It is hardly possible for a home-made one to be as strong and efficient as the factory-made one.—ED.]

Substitute for Paint.—I know, both by experience and observation, that common tar, such as is used for painting the riggigng on ships, is an excellent substitute for paint on wagon wheels, etc. It fills up all cracks and forms a smooth, glossy covering, protecting the wood from sun and water until it wears off. It is also used as a substitute for white lead in such work as setting axle boxes. It costs less than half as much as linseed oil here. MARION P. WHEELER.

Greenleaf, Ore.

Shock Compressor.—The cuts herewith represent the best shock compressor that I have ever used It is made of a hard-wood block about two and a half inches square by twelve inches long. It may be patented, but if so I do not know where it is made. I have used one about twelve years. It is made fast by drawing rope into notch in end of handle, then bringing it across to other end and pulling down behind sloping end.

LaBette, Kan. E. L. CHRISTY.

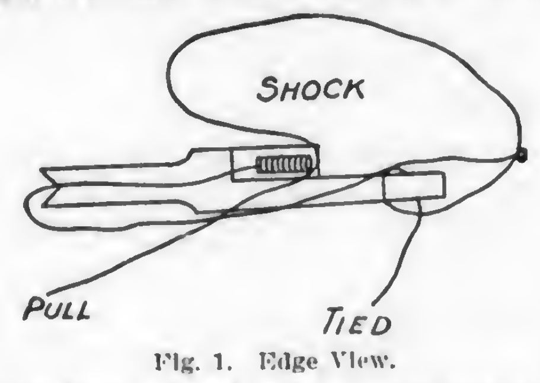


Fig. 1. Edge View.

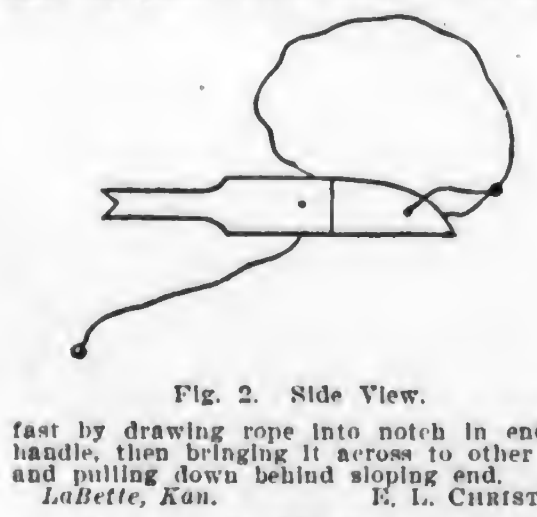
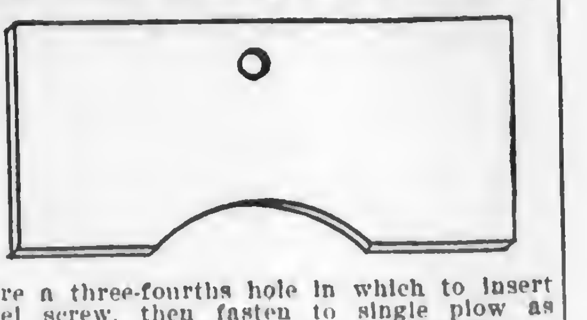


Fig. 2. Side View.

Tools for Getting out Field Stones.—While breaking up one of my fields for corn this spring I took out the stones that were within reach of my plow by means of a stone pick, which is a handy tool to have on almost any farm. I carried it around very nicely part of the time on my plow as the necessities of the case demanded, placing it behind the mould-board with its handle resting back against the brace between the plow handles. When the plow struck a stone I was ready for business; found it a success and required but a few moments to take out almost any stone that could conveniently be loaded into a wagon. I bunch them up as circumstances will allow and haul them off before pulverizing if possible. If I have some too large to be handled in this way, I have an arrangement made from the fork of a tree; cutting off the main part 8 or 10 inches below the fork and sloping the under side so it will slip over the ground readily. Attach a clevis and cut off the branches about 5 feet from the fork. Nail a piece of scantling across toward the rear to suit the requirements and you are ready for the team. Of course, an arrangement having similar shape may be made of scantlings not less than 2x4 (2x6 would be better) well nailed or bolted together, setting the scantlings up the narrow way. By having a spade and removing the dirt in such a way as to let the sled well down close beside the stone to be moved, it is surprising what one man by a little management may be able to handle. The larger rocks that lie about on many farms in some sections of the country, and too heavy to be moved economically, may be buried at slight cost if done at the proper time, when the ground is soft in spring, or after heavy rains. When I was a boy, a man employed me to bury several large stones, weighing perhaps, from one and a half to three tons. It cost him, I think, about 30 cents each, and I made good money. Do you suppose the man would have them back again for what it cost to remove them? Not much. J. C. JEFFRIES.

Samaria, Ind.

Seed Coverer. — I sow sorghum and broom corn seed in drills and cover it by taking a piece of plank 12 inches long, 6 inches wide and 1 inch thick. Begin about 3 inches from each end on one edge of plank and hollow it out to centre, cutting about 2 inches deep at centre; this being the lower edge. One inch from upper edge, in centre of plank, bore a three-fourths hole in which to insert heel screw, then fasten to single plow as you would a plow point, and coverer will be complete. Run the hollowed out edge of coverer directly over the row. This is a rapid way of covering and where the ground is in good tilth it can be done in this way as well as with a hoe. L. F. KIRKPATRICK.



Mooresburg, Tenn.

Those Long Rivets.—In buying assorted copper rivets, the kind usually sold at our hardware stores, we get a large number of long rivets for which the farmer has but little use; the result has been that after the shorter ones were used I have always had a large number of long ones that I did not know what to do with. Invested 15c. in a rivet set to force the burs down over the rivets and tried cutting long rivets off with cold chisel. I found this slow and rather unsatisfactory work, for in cutting rivets with cold chisel the ends were so battered that it was hard to get burs on even with rivet set. It occurred to me the other day that I could do this work with my wire cutters (pliers and wire cutters in one tool) and on giving it a trial I found it was entirely satisfactory. This made a smooth, clean cut on the rivets and I could get them the exact length I wanted them without any trouble. Long rivets after this, will not be thrown away. NATHAN CLAIR.

Newhall, Mo.

Adjustment of Scraper on Disk Plows.—I enclose an extract taken from the instructions sent out with a certain disk plow, showing how to set the scrapers on the plow for the different conditions of ground. I believe most failures of the disk plow to do good work are caused by the operator not setting the scrapers right: "Set the scraper high up for dry ground and low down when the soil is wet. If soil is in condition to shed off the disks without aid of scrapers, set them away from the disks a little so that neither may take unnecessary wear. Never set the scraper so that any part will project over the outer edge of disk, as both will become injured. When plowing up crab grass set the scraper as near the cutting edge of disk as possible without projecting; at most other times let it set back half an inch. Much depends on having proper adjustment, therefore be careful to get it right."

Sherman, Tex. WILL SHELTON.

5-Tooth Hand Cultivator.—This is one of the best implements that I have found for gardening or cultivating strawberries; working tobacco the first time, or almost any crop you would need to use the hoe upon, unless you have neglected the crop until it has become very foul with grass. This implement is attached to a handle something like a hoe handle and has five small shovels. I believe the use of this implement, instead of the hoe, will save nearly one-third of the labor, and the ground is left in better shape than with the hoe. I bought mine from Montgomery Ward & Co. for 90 cents. L. T. BOYLE.

Livia, Ky.

[This is essentially a spring-tooth cultivator, the ends of the round, curved springs being flattened to form the shovels. The handle is set at such an angle that the cultivator runs level in use.—ED.]

Good 2-Horse Planter. — Although I have just finished planting my corn, I would like to suggest to my farmer friends who have no planter of improved pattern the advisability of purchasing the Deere & Mansur No. 9. This planter has the most perfect dropping arrangement and drill attachment combined that I ever saw. I have used mine two seasons and it has scarcely missed a hill. It is a single kernel drop, putting two, three or four kernels in a hill 95 times out of 100 if you will take care to have seed of nearly uniform size, as no planter can plant tips and all evenly. The planter is very easily adjusted and has a powerful lifting spring so that anyone who can drive the team can operate the planter. Another fine point is that you can see every kernel as it drops, which is quite a comfort, as you know just what you are doing. W. S. LUTZOW.

Grundy Co., Ill.

[No doubt some of our readers will fail to understand what is meant by the "single kernel drop." Instead of putting in a plate with holes large enough to contain an entire hill of three or four grains, as we used to do, the single kernel plates are used the same as in drilling; in fact, the machine keeps right on drilling one grain at a time, and the hill is thus accumulated in the heel of the shoe, so that all the check rower has to do is to open the receptacle and let the hill of corn drop into the soil at the proper time. This is called "cumulative" principle."—ED.]

CHEERFUL WOMEN.

How to Keep Happy.

DESPONDENCY is a thing of evil origin and evil results. Worry produces nothing but wrinkles and wretchedness. Let the reader put up a little note on her bureau, on her desk, and at the head of her bed, just two words, DON'T WORRY. Worry is the greatest foe to the happiness of any household. An anxious, despondent face, a fretful, complaining voice, will make every one uncomfortable.

A woman's nerves are more truly the cause of worry than outside troubles. The nerves are to a woman's body the telegraph system, which surely warns her of any trouble in the feminine make-up.

WHY WOMEN HAVE 'NERVES.'

"That is the reason why women have 'nerves.' When our thoughts begin to grow cloudy and uncertain, our impulses lag and the warnings of pain and distress are sent like flying messages throughout our limbs and frame, we straightway, nine times in ten, lay the cause of the trouble to some defect in the point where we first feel it. Is it a headache, a backache, a sensation of irritability or twitching and uncontrollable nervousness, something must be wrong with the head or back, a woman naturally says, but all the time the real trouble very often centers in the womanly organs. In nine cases out of ten the seat of the difficulty is here, and a woman should take rational treatment for its cure. The local disorder and inflammation of the delicate special organs of the sex should be treated steadily and systematically."

Dr. Pierce, during a long period of practice, found that a prescription made up entirely of roots and herbs, without the use of alcohol, cured over ninety per cent. of such cases. After using this remedy for many years in his private practice he put it up in a form that would make it easily procurable, and it can be had at any store where medicines are handled.

$500 REWARD FOR WOMEN WHO CANNOT BE CURED.

Backed up by over a third of a century of remarkable and uniform cures, a record such as no other remedy for the diseases and weaknesses peculiar to women ever attained, the proprietors and makers of Dr. Pierce's Favorite Prescription now feel fully warranted in offering to pay $500 in legal money of the United States, for any case of Leucorrhea, Female Weakness, Prolapsus, or Falling of Womb which they cannot cure. All they ask is a fair and reasonable trial of their means of cure.

They have the most remarkable record of cures made by this world-famed remedy ever placed to the credit of any preparation especially designed for the cure of woman's peculiar ailments.

Sick women, especially those suffering from diseases of long standing, are invited to consult Dr. Pierce by letter, *free*. All correspondence is held as strictly private and sacredly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y.

"I write these few lines to let you know that I am using your 'Favorite Prescription,' and the good it has done me," says Mrs. Timothy Bourgeois, of Tobique Narrows, New Bruns. "I was troubled with headache and stomach trouble, also other female weakness. Having read a great deal about your cures I concluded to try the medicine, so my husband purchased a bottle of 'Favorite Prescription.' I was no time taking it before I felt better. Cannot thank you enough for the good it has done me. I hope others may be benefited by its use as I have been."

"I can strongly recommend Dr. Pierce's medicines, especially the 'Favorite Prescription' and 'Golden Medical Discovery,' writes Mrs. Clara Gardner, of Rainey, Mo. "I suffered from nervous debility, brought on by hard work and trouble. Had suffered several years; was growing weaker gradually, not only in body but in mind also. I began taking your medicine last spring. Commenced to improve from the start, and by the time I had taken twelve bottles, six of the 'Favorite Prescription' and six of the 'Golden Medical Discovery,' felt that I was well enough to get along without medicine. Was like a different woman and would not have been in the condition I was before taking the medicines, for a hundred dollars. Am well and hearty now, and if I ever need medicine again, will certainly take Dr. Pierce's."

KNOW THYSELF.

Your most important knowledge is knowledge of yourself. You should read a complete "Doctor" book, called Dr. Pierce's Common Sense Medical Adviser. Has reached its sixty-first edition or 2,000,000 copies. Send 21 cents in one-cent stamps, for this 1000-page book in paper covers, or 31 cents for a copy in cloth binding. Address Dr. R. V. Pierce, Buffalo, N. Y.

WHAT $10.00 WILL DO

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Co-Operative Profit-Sharing Money-Saving | **A MAGNIFICENT MERCANTILE ENTERPRISE** | **A Handsome LIFE-INCOME Assured to Investors**

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- Athletic Goods
- Agricultural Implements
- Baby Carriages
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- Bicycle Sundries
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- Clocks
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- Clothing, Made-to-Order
- Crockery and Glassware
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- Harness and Saddlery
- Hats and Caps
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FIRST PUBLIC ANNOUNCEMENT:

Of interest to Everybody and Worthy of Your Closest Attention to the End: Because it Contains a New Idea Which will appear to You as Unique, Striking and Certain of National Success.

THIS is as advertised—We desire to set forth to the readers of this paper the true merits of a splendid, safe investment—opportunity—and challenge the searching scrutiny of the most conservative banker, lawyer or business man. Let us preface the announcement by saying that that is not the mushroom scheme of a promoter but a well weighed, carefully balanced plan of organization matured by years of experience and careful study and based on practical successful operation. We have laid our entire plan and proposition before some of the leading bankers, lawyers and business men of Chicago and other cities, also before many of the leading manufacturers throughout the United States, all of whom have pronounced it correct in principle, practical and certain of success. All these people have been approached in a private way, and many of them have interested themselves with us. They are positively leaders in the business world and known by everybody. Here is the proposition plainly stated: We have organized the **"Cash Buyers' Union, First National Co-Operative Society"** taking as a basis for the organization the old well established and eminently successful institution, the Cash Buyers' Union, a concern which has been in successful operation for the past eighteen years, whose advertisements have appeared in every mail order, agricultural and class advertising medium in the U. S., and whose name is a household word in every farm and village home. It has already several hundred thousand active customers scattered throughout the land from Maine to California and from British Columbia to the Gulf. We have reorganized this institution with a capital of **Five Million Dollars.**

This is Our Plan

We want every reader of this paper to become a stockholder of the **Cash Buyers' Union, First National Co-Operative Society,** of Chicago, Ill.—one of the largest mail-order houses and the greatest co-operative store in the world. We want *Small* stockholders, but thousands of them and everywhere. We will not sell more than 100 shares ($1000.00) to any one individual and reserve the right to return your subscription and money after the amount of stock allotted to your county has been placed, or for any other good reason. This means that *you must act at once* or your letter and remittance may be returned to you, thus depriving you of participation in a *great national movement toward co-operative dealing,* depriving you also of this most exceptional opportunity for a *strictly high-grade* and immensely profitable *investment*—far better than a government bond and as safe; better than your savings bank deposit; better than real estate, mortgages, stocks, bonds or any other flattering investment you may mention.

We Have Refused to Accept $250,000.00

offered by one single Chicago capitalist, who, like ourselves, is so strong a believer in the *co-operative* mail-order business; so forcibly attracted by its wonderful earning power as demonstrated by famous national successes that he would be thankful to be permitted to invest his money in our shares. We have refused him because he could only *give us his money.*

We don't want money, we want stockholders—Co-Operative Stockholders—men, women, even children, all over this great country, one at least, in every town or hamlet, who will, impelled by their sense of interested ownership and personal profit, make it their business to become walking, talking advertisements for this great establishment; who, no matter if they hold but one ten-dollar share, will feel proud ownership in their institution and do as owners do—Talk the Business, Push the Business, Boom the Business.

In other words—we want our stockholders to be active in and for the business—*be Owners, Customers and Salesmen—all in one.*

As Owners: You will receive 7 per cent. on your investment (*that is guaranteed*) and *in addition* a proportionate share of the profits, which are from 15 per cent. on the investment from the very start and may reach 50, 75 or 100 per cent., annually according to the amount of business secured.

As Customers: *You have special privileges in purchasing and can buy (if you desire to patronize your own store, which is optional) at a special stockholder's discount from the regular catalogue price, which alone will save you more than your entire investment in a short time.*

As Co-Operators: If you influence orders for us you will receive the vast amount of money which would otherwise have to be spent in the selling expense—newspaper advertising and catalogues.

This is Co-Operation at Last

in the truest sense of the word—the people owning their own store—with a purchasing power greater, more stupendous than that of all the great department stores of New York City and Chicago combined—a purchasing and distributing power which will drive price points lower than ever before, reduce the cost of living and enable the people in any part of the country to supply their needs—*either direct, by mail, or perhaps through local branch stores*—at nearly half the price they are ordinarily obliged to pay for.

Detailed Plan of Capitalization:

We have decided to re-charter the "Cash Buyers' Union" under the name of **Cash Buyers' Union, First National Co-Operative Society,** and to increase its capital stock to **Five Million Dollars** consisting of 500,000 shares of $10 each and divided as follows: **Preferred Stock, $2,500,000, Common Stock $2,500,000** and offer for sale at par, for cash **preferred stock only.** The preferred stock is fully paid, non-assessable, seven (7) per cent. Guaranteed Cumulative and Fully Participating.

THIS MEANS:

First—THE PREFERRED STOCK is called preferred because it constitutes an absolute first claim, in effect A FIRST MORTGAGE on the entire assets, property, property-rights, trademarks, trade-rights, etc., and the net profits of the business. The common stock cannot draw one cent of dividend until the PREFERRED STOCK has first been paid its guaranteed 7 per cent. dividend each and every year.

Second—It is FULLY PAID and NON-ASSESSABLE. Your first payment of $10.00 pays in full for one share, and you cannot be assessed for further payment under any consideration.

Third—An annual dividend of SEVEN PER CENT. must FIRST be paid each and every year on all the preferred stock before the common stock receives one cent, and this dividend is also FIRST CLAIM on all the property of the society.

Fourth—FULLY PARTICIPATING means that in addition to the seven per cent. guaranteed dividend, the preferred stock fully participates—share and share alike—in all the profits of the society. For example: If the net profits of the society amount to 25 per cent. on the investment the preferred stock will receive, in addition to the guaranteed 7 per cent. dividend another 18 per cent. dividend.

Fifth—Every dollar received from the sale of Preferred Stock goes right into the business for active use and is represented by actual assets—dollar for dollar.

LIMITATION OF SUBSCRIPTION.

We should prefer to place this stock to 250,000 individual shareholders, each owning but $10, because the widest possible distribution of the shares is the chief object of this organization; therefore, not to exceed 100 shares ($1000) will be sold to any one individual.

Again, in order to distribute our representation **equally** throughout the country, we reserve the right to decline your subscription if the amount of shares allotted to your county on the basis of population has been reached. We will not accept total subscriptions to exceed $150,000 a month and reserve until further notice, the right to return all money received in excess or apply it on the next months allotment, if you prefer.

NET PROFITS:

15 per cent. on the investment right from the start is the most conservative estimate it is possible to make for a successful business established 18 years, which is **not a new, unproven enterprise,** but a business which already has several hundred thousand satisfied customers with whom it is now doing business every day and which **sells everything from a needle to a threshing machine,** reaching every part and point of the civilized world.

During its eighteen years of successful existence the **Cash Buyers' Union**—the very business you buy into—**has earned as high as 40 per cent. on the capital invested** on a comparatively small business, consisting of but few departments. With the much larger business assured through the interested and profit-sharing co-operation of thousands of customers, and the public at large, an even higher rate of profit is safely assured.

HISTORY:

A return of more than thirty times the investment in six years. The tremendous earning power of the mail-order business is history.

One of the pioneers in the business, as long as twenty-five years ago, started with a small office and having little or no money, offered a half interest in his plant for $2,000, which money he desired for the expansion of the business. He was refused. Today this same $2,000 half-interest is worth $3,000,000 and not for sale at any price. And all this vast capital has been piled up by profits of the business.

For another example: Eight years ago a Chicago capitalist entered a newly started mail-order business. He contributed to the capital of the firm less than $40,000. During the six years of his active connection with the business he withdrew many times his original investment in dividends, and finally sold his interest for considerable over a million dollars.

Six years in the mail-order business netted him more than thirty times his original investment.

All this was done under close individual partnership, with limited capital, and without the tremendous co operation and selling force of an army of thousands of co-operative stockholders.

The business of two of the largest mail-order houses combined amounts to $35,000,000 annually and yields a profit of $1,400,000 on a total capitalization of less than $4,000,000, **or 35 per cent. on the investment.**

With such achievements by private individuals, a strongly co-operative organization with a $5,000,000 capital—greater than that of all others combined—With the most skilled force of managers and employes recruited from its own shareholders, will without question, achieve still greater results both in point of sales and net profits produced.

IN CONCLUSION: It is evident from these facts and figures, which can be verified by any commercial agency, any bank in the city of Chicago, that our proposition will meet with immediate national acceptance as this advertisement appears in every paper of value from the Atlantic to the Pacific and from Winnipeg to the Gulf. It is evident also that this stock will be largely over-subscribed, go to a premium at once, and that the principle "first come first served" will have to be applied from the very start. While we shall be glad to send our elaborate "Book of Information" to all those who desire more complete details, we advise you in your own interest to subscribe today, **NOW, before you lay aside this paper;** and we and our bank agree to return your money if within 30 days after subscribing you change your mind or are dissatisfied with your investment for any reason.

Cash Buyers' Union, First National Co-Operative Society, Dept. A909, 158 to 168 W. Van Buren St., Chicago, Ill.

REFERENCES: First National Bank, Chicago, Depository; Metropolitan Trust and Savings Bank, Chicago, Registrars; Messrs. Lord & Thomas, Advertising Agency; Dun's or Bradstreet's Mercantile Agencies; any railroad and express company. The publisher of any newspaper or magazine. Any bank or reputable business house in Chicago.

REQUEST FOR PROSPECTUS.

Cash Buyers' Union, First National Co-Operative Society, Dept. A909, 158 to 168 W. Van Buren St., Chicago.

Gentlemen:—Please send your complete "Book of Information" and all literature pertaining to the profit-sharing stock of your company to

Name..Street..

P. O..State..

It is understood that above will be sent to me free of all charges and that I am under no obligation whatsoever to subscribe.

For Quick Action Fill in this Remittance Blank

and send in plain letter with P. O. Order, Express Order, Check or by Registered Mail, if currency.

Metropolitan Trust & Savings Bank
Cor. Madison & LaSalle sts., Chicago, Ill.

Gentlemen: I hereby subscribe for..shares of the full paid, non-assessable, 7 per cent. preferred and fully participating stock of the **Cash Buyers' Union, First National Co-Operative Society** at $10.00 per share. Enclosed find $.................. in payment of same. This stock is to be registered by you in my name and the stock certificates sent to me, and when so registered and sent to me you are authorized to turn over my money to the company. If my subscription is received too late, the money is to be returned to me.

Name..Street..

P. O..State..

OUR PREMIUM DEPARTMENT.

The P. F. Fountain Pen has been tried under all sorts of conditions. It has none of the defects of the "cheap" pens and all the excellencies of the high priced ones, and yet we send it postpaid for a dollar, the lowest price at which any real fountain pen is sold. We much prefer to give it for a club of six yearly subscriptions to the P. F. at 50 cents each. These subscriptions can be either renewals or new ones, or some of both. A little effort on the part of any P. F. reader will secure one of these six-name clubs, and the club raiser will have the satisfaction of having helped us and secured a fountain pen that will be a source of pleasure for years.

If you have not yet made an estimate in our World's Fair Contest you should do so at once. Secure a new subscriber to the P. F. for six months, costing only 50 cents. The new subscriber will be entitled to make one estimate, and you will also be entitled to make one. Send the new name, 50 cents and the two estimates and the business is done. For every six-months' subscription you send you can make an estimate, and each new subscriber one estimate. Read the particulars of the contest on this page and then make up your clubs. Somebody will get $30,000 in cold cash. Why not you?

Even in the hurry and bustle of the summer campaign on the farm there is time to speak a good word for the P. F. Experience has taught us that many of our friends have done most effective work for our paper during the summer months, and a large percentage of our subscribers have been secured during those months. Our strong point is the six-name clubs, by which the P. F. can be secured at 50 cents per year, just half of the regular subscription price. We are offering a number of attractive premiums for these clubs, some of which are described this week, and others in this department from week to week. Every mail brings us some of these clubs. But there are thousands of our friends who have not been represented in this club raising business. These are the ones we are after, and which we wish represented among our club raisers.

We will send the P. F. to Jan. 1. 1904, for only 25 cents in a club of four, and give to each club raiser the choice of any one of these four books:

Farm Helps
Short Cuts No. 1
Farm Experience No. 1
Farm Experience No. 2

Why not send a club of 16 and get all four of the books?

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Gathered from the experiences of the farmer and his wife from Maine to California. Originally published in The Practical Farmer, Philadelphia.

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to warn the tiller from the rocks of failure. Applicable to every farmer in the United States and Canada. With full index.

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Every reader of the P. F. should have

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The gospel of good gardening is effectively preached in this latest work from the pen of Mr. Greiner. The author brings to it an experience of 30 years in actual soil contact, and a reputation as one of the most practical and entertaining writers on gardening and kindred topics in the Agricultural Press. It is his latest and best work, the fruit of a life experience. No one who has a garden, large or small, or who is at all interested in the subject, should fail to get this work and read and study it.

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With 129 Practical Illustrations,

Right for every day reading. Right for reference to solve the many problems which confront every one who has a garden.

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200 Pages. Handsomely and Profusely Illustrated.

The second part of the Garden Book fills a long felt want in the gardener's practice. It is the

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T. B. Terry's Book

A complete record of his farm work, covering a period of 28 years. Mr. Terry is the best known farmer in the United States, and one of the most successful. He began farming handicapped by all the difficulties that can environ any farmer. He was without experience, he had a small, very poor farm, he was heavily in debt, and without stock and implements, yet he overcame all these difficulties, paid off his debts, made his farm rich and productive, and has accumulated money.

How he did it is told in "Our Farming." The work is written in the plainest and most matter-of-fact way, giving in the minutest detail

How the writer succeeded in his efforts to make a poor, worn-out, run-down farm one of the best paying and most productive pieces of farming land in the country.

It is interesting as a romance and the most practical, helpful book for the farmer that has yet been published.

Contains 368 pages, printed with new, large type, on fine white paper, with an excellent, finely engraved portrait of the author and numerous full page and smaller illustrations. Handsomely bound in cloth covers.

PRICE, POSTPAID, $2.00.

The Practical Farmer for one year and a copy of "Our Farming" postpaid, for $2.50.

A BONANZA FOR AGENTS.

We want agents for all parts of the United States and Canada to take subscriptions for "Our Farming" and THE PRACTICAL FARMER. We pay a large commission and the right parties can earn big wages during the entire year.

We Want an Agent at Every Post Office.

Write at once for terms.

The Best Book on

FERTILIZERS

A book for the farm, garden and orchard, giving special instruction for the use of commercial fertilizers. A book that means the saving of hundreds of dollars by every farmer who studies its methods.

CropGrowing AND Crop Feeding

Forty-nine Chapters, 383 pages, of the most condensed, practical, money-saving and money-making information to be found anywhere; by

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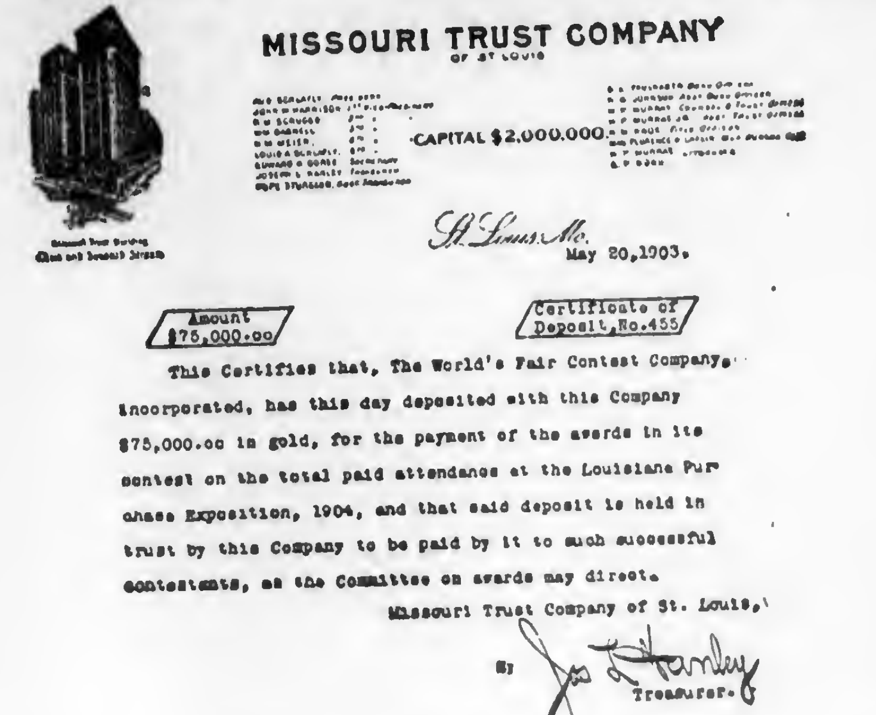
TO ADVERTISE THE ST. LOUIS WORLD'S FAIR.

$75,000 IN CASH PRIZES



MISSOURI TRUST COMPANY
OF ST. LOUIS

CAPITAL $2,000,000

St. Louis, Mo. May 20, 1903.

Amount $75,000.00

Certificate of Deposit, No. 455

This Certifies that, The World's Fair Contest Company, incorporated, has this day deposited with this Company $75,000.00 in gold, for the payment of the awards in its contest on the total paid attendance at the Louisiana Purchase Exposition, 1904, and that said deposit is held in trust by this Company to be paid by it to such successful contestants, as the Committee on awards may direct.

Missouri Trust Company of St. Louis,

By Jos. L. Hanley Treasurer.

First Prize,	**$25,000.00**	**Fourth Prize,**	**2,500.00**
Second Prize,	**10,000.00**	**Fifth Prize,**	**1,500.00**
Third Prize,	**5,000.00**	**Sixth Prize,**	**1,000.00**

AND $30,000 IN 1,883 SMALLER PRIZES.

Can you estimate how many people will attend the St. Louis World's Fair? The 1,889 people whose estimates are the closest will receive $75,000 in Gold.

Every one has an opportunity to share in the $75,000.00 to be paid to the successful contestants. This grand educational contest, undertaken in order to arouse interest in the greatest World's Fair the world has ever seen may bring you a fortune, and if you are careful in your estimates it is almost sure to bring you at least one of the prizes of $50.00 or $100.00, while you stand an equal opportunity to get the $30,000. Hundreds of people will be made richer by competing in this great contest. Why not you? Every American should do all he can to help spread interest in the World's Fair, and when he can do this with profit to himself the reason for it is double. You cannot afford to overlook this grand opportunity to gain a fortune for yourself.

HERE ARE THE PRIZES.

To the nearest correct estimate	$25,000.00
To the second nearest correct estimate	10,000.00
To the third nearest correct estimate	5,000.00
To the fourth nearest correct estimate	2,500.00
To the fifth nearest correct estimate	1,500.00
To the sixth nearest correct estimate	1,000.00
To the next 10 nearest correct estimates, $200 each	2,000.00
To the next 20 nearest correct estimates, $100 each	2,000.00
To the next 50 nearest correct estimates, $50 each	2,500.00
To the next 100 nearest correct estimates, $25 each	2,500.00
To the next 200 nearest correct estimates, $10 each	2,000.00
To the next 500 nearest correct estimates, $5 each	2,500.00
To the next 1,000 nearest correct estimates, $1 each	1,000.00
Total	$59,500.00
Supplementary Prizes for the Estimates sent in Earliest	**$15,500.00.**
For nearest correct estimate sent in between February 1, and July 1, 1903	$5,000.00 extra
For nearest correct estimate sent in between July 1, 1903, and January 1, 1904	$5,000.00 extra
For nearest correct estimate sent in between January 1, 1904, and May 1, 1904	5,500.00 extra.

GRAND TOTAL OF CASH PRIZES...$75,000.00

INFORMATION THAT WILL HELP YOU ESTIMATE.

The total paid attendance at the Chicago World's Fair was	21,480,141
The total paid attendance at the Buffalo Pan-American Exposition was	5,306,859
The total paid attendance at the Omaha Exposition was	1,778,250

Without doubt the World's Fair at St. Louis will be the largest ever held in the world.

HOW YOU CAN WIN ONE OF THESE PRIZES.

We will send The Practical Farmer to a new name for 6 months for 50 cents and the new subscriber will be entitled to make one estimate in this Prize Contest. Each present subscriber of the P. F. who will send us one of these 6-months trial subscriptions will also be entitled to make one estimate. In other words, 50 cents will pay for The Practical Farmer for 6 months and 2 estimates in the contest, one for the new subscriber and one for the old subscriber who sends the subscription. A present subscriber to the P. F. can send as many of these 6-months trial subscriptions as he or she chooses, and will be entitled to one estimate for each subscription; **but these subscriptions must be new and not renewals.**

Write your estimate plainly and also your name and address.

For each estimate you send in, a separate engraved and coupon numbered Certificate, issued by The World's Fair Contest Co., St. Louis, Mo., will be sent you with your estimate shown thereon. These certificates to be retained by you until the close of the contest. YOU HOLD YOUR OWN CERTIFICATES. Get in your estimates early, as $15,500 extra is to be divided among the earliest estimates received.

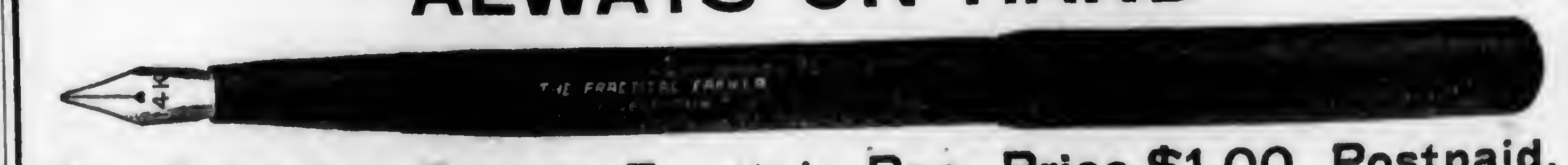
HOW THE CONTEST WILL BE DECIDED.—The Official Record of the Secretary of the World's Fair showing the total paid attendance will determine who are entitled to the prizes, and the awards will be made by a committee of prominent Judges. Prizes will be paid in cash immediately after. If more than one estimate is correct, the prize will be equally divided.

MAKE UP CLUBS FOR THIS CONTEST.

We urge our friends to make up clubs in their respective neighborhoods in this contest. A club of 5 six-months subscriptions will entitle the club raiser to five estimates, besides the estimate to which each subscriber is entitled. A club of ten will give the club raiser 10 estimates and so on. You can subscribe for a friend who does not take the P. F. and have the paper sent to him and you have both estimates. Start in at once, so that your estimate will be in line for the $5,000 extra for the nearest correct estimate sent in between July 1, 1903, and Jan. 1, 1904. Your estimate may win both that prize and the $25,000 one. Address

THE FARMER CO., Publishers The Practical Farmer, Philadelphia, Pa.

ALWAYS ON HAND



The Practical Farmer Fountain Pen, Price $1.00, Postpaid. Guaranteed the Equal of any $2.00 Fountain Pen Sold.

The ink does not dry in the pen; it can be used one day, laid aside for a week, and is then ready for business instantly; no soiling of the fingers; best gold pen and point; hard rubber holder; fully guaranteed in every respect; money back if not satisfactory. Plain or Stub point, as desired.

We will send the P. F. for one year and a Practical Farmer Fountain Pen for only $1.25; less than you would pay for the pen in any store. One of these pens FREE for a club of six yearly subscribers to the P. F. at 50 cts. each.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located 15 miles north of Wabash City in Wabash Co. Weather very warm; corn growing fast; wheat cut, about half a crop; oats not a full crop; much hay being made; fruit not plentiful. July 1st more rain fell here than was ever known before. Prices: Wheat, 70c.; oats, 38c.; corn, 45c. per bu.; eggs, 13c. per doz.; butter, 15c. per lb.; hogs, $5.25 per cwt. Horses high and in constant demand. Help scarce and farmers very busy.
S. S. Karn.
No. Manchester, Ind., July 21, 1903.

Located in Humboldt Co., Iowa, the land of corn and hogs. It rains almost every day, and the renters having not provided for a "rainy day" are in a bad pickle. Wish they had some of Terry's brains and they would surely come through "even" anyway. The outlook for corn is fair; other grains same. The pig crop this year is very good. Prices: Corn, 45c.; oats, 31c.; wheat, 60c. per bu.; hogs, 5c. per lb.; cattle, from $3 to $4.50 per cwt. Farmers prosperous, as a rule, but need more good reading, especially such as the P. F. May it live long.
E. B. Kirkeberg.
Eagle Grove, Ia., July 18, 1903.

Located in Western Colorado, at the junction of the Grand and Gunnison Rivers. The spring was a little late, but otherwise weather has been very good. The Government canal which the surveyors were working at last winter, has been abandoned owing to difficulties which could not be overcome. Berries and small fruit have been scarce and there are very few peaches except in upper part of valley. Pears and apples will be a fair crop. Vegetables have done well. Prices: Wheat and oats, $2; corn, $1.75; new potatoes, $2 per cwt.; string beans, 8c to 10c.; peas, 5 to 8c.; butter, 25c. per lb.; eggs, 20c. per doz.; wages, $25 per month. Other things in proportion.
H. L. Savage.
Grand Junction, Col., July 17, 1903.

Located in Ohio Co., 1¼ miles from Green River, and 5 miles from railroad. Corn is selling at 80c.; potatoes, 50c. per bu. Wheat and oats not threshed yet. We had a fine rain July 11th. Crops are looking nice. Fruit is scarce. There is considerable stock raised in this section; mules, weanlings, $35 to $50; work mules, $85 to $125; milch cows, $20 to $45 each; fat steers, 3¾ to 5c.; fat hogs, 5¾ to 8c.; chickens, 8 to 12½c. per lb.
J. S. Bracken.
Prentis, Ky., July 20, 1903.

Located in the central part of East Tennessee, Grainger Co., Rutledge the county seat. Principal crops are wheat and corn, fruits, vegetables, etc. Wheat crop short; almost a failure. Good prospects for a good corn crop. Plenty of rain. The majority of the farmers have their corn to cultivate once more. Wheat, 75c.; corn, 80c. per bu.; chickens, 8c.; butter, 10c. per lb.; eggs, 9c. per doz. Plenty of berries; a moderately good fruit crop; injured to some extent by the late spring frosts. Climate very healthful.
P. F. Conum.
R 6, Rutledge, Tenn., July 20, 1903.

Located near Corydon, the county seat. The dry weather has been broken by some good local showers. Wheat bad, both in quality and quantity, some of the creek bottoms only making 5 to 7 bushels per acre; upland some better. Corn looks tolerably well for late planting; a small acreage planted in this section. Potatoes not looking well; most patches are only about one-half stand. The early ones brought from $1 to $1.25 per bu., but cheaper now. Prices: Good horses scarce and high, from $125 to $200; even plugs are in good demand; cows, from $20 to $50 each; butter, 12c. per lb.; eggs, 10c. per doz.; old hens, 7c.; young chickens, 8c. per lb. Fruit scarce; few peaches, some apples; more blackberries than anything else. Health tolerably good.
Mrs. C. C. Hubbard.
Corydon, Ind., July 21, 1903.

Marion Co., W. Va. Plenty of rain, everything growing nicely; corn tasseling out; oats soon due to cut; some fields lodging. The truck farmers are now busy marketing potatoes. Strawberries and raspberries are raised quite extensively here; growers marketed several hundred gallons each this season, which averaged 40 to 42 cents per gallon. There is an increased market here for all products of the farm. Prices: Wheat, 85c.; corn, 75c.; oats, 45c.; potatoes, $1 per bu.; butter, 15c. per lb.; eggs, 20c. per doz.; chickens, 12c.; old, 9c. per lb. Success to P. F. and all its readers.
E. R. I. Freeland.
Barrackville, W. Va., July 21, 1903.

The season here so far has been very irregular and unfavorable to all crops and especially to cotton. It will take a late and favorable fall to make a two-thirds crop of corn and cotton. Wheat was but a half crop; winter oats fairly good and the berry crop fine. Pears and peaches are about a failure and apples one-third crop. Labor is scarce and commands good prices and even when crops are laid by laborers will be in demand at 50c. to $1 per day. Prices are: Corn, 80c.; wheat, 90c.; oats 50c. per bu.; eggs, 10c. per doz.; butter, 12½ to 15c. per lb. Much roots, bark and herbs, etc., are sold here but prices are low.
C. C. Gettys.
Duncan, N. C., July 18, 1903.

Not many farmers finished planting corn, but all have quit as it is so late. Some planted corn until July 10th. Corn growing very fast, but some fields are very weedy as a result of continued wet weather. Much ground will lie idle this year. Wheat crop very poor. Gardens are poor. Most fruits will be rather scarce. Apples failing badly; a few scattering bunches of grapes; a good many plums; no peaches on bottoms. Bees doing well. Hay crop fair to good; some meadows are very light. Wages starting at $1.25 per day; hay, $5.50 per ton; corn, 45 to 50c.; oats, 37c. per bu.; hogs, $5 per cwt.; eggs, 10c. per doz.; hens, 7½c.; spring chickens, 11c.; butter, 12½c.; honey, 15c. per lb. The weather is very warm. We had a fine rain July 11, which was needed as the ground is not in a condition to stand a very long drought. The rain preceding that came July 4th and ground was getting pretty hard. Farmers considerably behind with their work. Corn plowing just fairly begun. Success to the P. F. and readers.
James H. Tull.
R 1, Walker, Mo., July 18, 1903.

Located 35 miles from Baltimore, on the N. C. R. R. Have rural free delivery of mail. Lots of rain the past six weeks, putting the farmers back with their work very much, but most of them are through making hay and harvesting their wheat; corn and oats look fine; also potatoes. Fruit is scarce and so is farm help; can scarcely get anyone to help for love or money. Prices: Wheat, 73c.; corn, 35c. per bu.; no oats to sell; horses, $125; cows, $35 to $50 each; butter, 16c. per lb.; eggs, 15c. per doz.
Mrs. D. U. Sweeny.
Freeland, Md., July 22, 1903.

Located in northwestern part of the State; fine farming country. Season very late; very little warm weather until now. Oats short owing to a drought in June. Plenty of rain now. Grass fine; corn looking well considering the cool weather and time planted. The country is full of creameries and cheese factories. Farmers make their money by milk and raising hogs. Farm hands very scarce. Farmers are paying $2 per day during hay harvest. Girls get from $2 to $3 per week. Prices: Hay, $7 per ton; corn, 46c.; oats, 34c., per bu.; milk, 16c. per cwt.; hogs, 5c.; cattle, 2c. per lb.; horses, $75 to $125. Land selling for $65 to $110 per acre, depending on size of farm.
Mrs. H. H. Diveley.
McConnell, Ill. July 20, 1903.

Weather conditions in McDonald county warm and dry. Wheat all harvested, and below an average crop; some threshing begun. Oats an average crop, but much affected with smut. Corn very backward, indicating about 50 per cent. of a crop. Rains will help out some. Potatoes, early, good; late will be cut short through want of rain. Cow peas, early planting almost a failure, late planting a good stand. Hay of all kind good by reason of plenty of rain in early summer. Apples about 10 per cent. of a crop. Peaches a failure; plums and pears also.
G. Winkler.
Southwest City, Mo., July 17, 1903.

Located in Augusta Co., 6 miles south of Staunton, Va. Climate unexcelled. Harvest nearly over; wheat crop very light; in many places not more than 12 bushels per acre; pasture short; hay crop short. Very dry spring. All vegetation injured by frosts and freezes in spring. Potatoes a very good crop; corn is looking well; tomatoes ripen very slowly. Fruit is scarce; huckleberries and blackberries are plentiful. Labor is scarce and demands high wages. Telephones are scattered all over our valley, which put us in touch with the world at large. Wheat, 75c. per bu.; eggs, 12c. per doz.; butter, 12c. per lb.; chickens, 20 to 25c.; horses, $50 to $100; cows, $20 to $30 each; hogs, 5c.; cattle, 6c. per lb. Have excellent schools and churches. Many orchards are being set out every season. Have R. F. D., which is very satisfactory.
Will I. McPheeters.
R 1, Staunton, Va., July 21, 1903.

Farm work somewhat backward on account of the dry weather in the spring. Wheat short crop; corn laid by and looking well; tobacco looking well but not much laid by and topped yet; gardens generally good; fruit not half a crop in this section. Have R. F. D. We have good schools and churches. We think the P. F. the best farm paper. Farm help very scarce in this country.
W. A. McCollum.
R. F. D., Madison, N. C., July 18, 1903.

FITS

If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.

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Valuable free book mailed to any one interested. Address John H. Jackson, Albany, N. Y.

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Write for 100-page Catalogue. It's free.

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Best and cheapest.
Send for catalogue.
BOOMER & BOSCHERT PRESS CO.,
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SYRACUSE, N. Y.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

For Sale. Small farm; good houses, saw mill, shingle mill, flour and corn mills, engine and boiler, 60 H. P. Price, $1500. Box 29, Charlotte, Tenn.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. Arndt, Hardy, Ark.

Rare Chance. Farm and summer boarding house, 30 acres; house, cottage, kitchen, underground stable, barn, chicken coop, all new; water connection to kitchen and bath room; capacity 25 boarders, all rooms engaged, $6 to $8 paid per week for board; 110 miles to New York City, round trip ticket one dollar. Must be sold on account of old age. Address, Greeley House and Cottage, Greeley, Pa.

Acme Harrows Indestructible. Cheapest because the best. Send for cat.
DUANE H. NASH, Sole Mfr.,
Millington, New Jersey, and Chicago.

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Address Gemmer Eng. & Mfg. Co., Marion, Ind

SAMSON Galvanized Steel Wind Mills Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

GEM FULL CIRCLE STEEL BALER
Lightest, Strongest, Cheapest.
GEO. ERTEL CO., QUINCY, ILL.

CUTTERS and BLOWERS. "They Throw and Blow"
They require less power than any other blower because the wheel containing the knives also contains paddles which throw and fans which blow. A two-horse tread power will cut and elevate 4 tons of ensilage per hour, and a 10 h. p. engine 20 tons per hour. No chains, belts or cogs to slip and waste power. Also silos, horse powers, engines, carriers, saw machines, etc.
HARDER MFG. CO., COBLESKILL, N. Y.

Ensilage Cutter and Tread Power
For 1, 2 and 3 horses, level or even tread; Sweep Powers, 2 to 8 horses; 5 sizes Separators, Feed Cutters, Feed Mills, Hand and Power Corn Shellers, Saws, Plows, Steel and Wood Rollers, Engines 3 to 25 Horse Power, mounted or stationary.
THE MESSINGER MFG. CO., Tatamy, Pa.

IMPROVED DWARF ESSEX RAPE
A foliage plant of the very highest value. It makes quick and large growth (about three feet) smothering out all weeds and objectionable grasses. It may also be plowed under as green manure. In six weeks from time of sowing, sheep, hogs or cattle can be turned on it. An acre of rape will pasture 12 to 15 sheep six to eight weeks. In the North it can be sown any time from May to Sept., but in the South it should not be sown until Sept. or Oct. for fall pasturage. It is perfectly hardy, notwithstanding drought and a sure cropper on all kinds of soil. Sow 5 lbs. to the acre broadcast, or 3 lbs. in drills. Packet, 10 cents; pound, 25 cents; 5 pounds (enough for 1 acre) $1 by mail, postpaid. By express or freight, purchaser paying charges, 10 pounds, $1.00; 25 pounds, $2.00; 100 pounds, $7.00.

COW HORN TURNIP.
Long, white root, quick to mature. It is now sown mixed with Dwarf Essex Rape and the crop turned under for soiling, giving excellent results. Packet, 5 cts.; ounce, 10 cts.; ¼ pound, 15 cts.; pound, 50 cts., postpaid. By express, pound, 40 cents; 10 pounds, $3.50.

WM. HENRY MAULE,
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there is need for an efficient little engine these days. A compact, self-contained little machine that you can run yourself and move from place to place to pump, saw, grind, churn, cut ensilage, use in the shop, etc.

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admirably fit farm requirements. The Vertical Engine is made 1 to 10 h. p. and just a few cents per hour—about a nickle—will run it for any duty you have. We also make Horizontal Engines, from 3 h. p. up. All are perfectly simple and safe, and anybody can run them. You never miss the space they occupy. You hardly miss the money it takes to buy the gasoline to run them, and think of the drudgery they save you. Investigate a little further and you'll be interested. We'll send you a little power book for the asking.
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THE FAIRBANKS COMPANY, NEW YORK, N.Y.
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It is not often you can get into so strong and reliable a company, composed of Philadelphia's most respected and reliable business men and owning one of the best gold mining properties in the country, upon such favorable terms, a ground floor rate and absolute

Security Against Loss.

Conservative mining engineers who have thoroughly experted this property estimate net earnings of over 60 per cent. on the par value of Central stock. Would it not be worth while to own a thousand shares of this stock, especially when you can buy it under a guarantee against loss? The dividends would pay back your entire investment several times every year at present price of stock. Price will advance rapidly. Get in now at lowest rate. First advance to double present price Aug. 15th. Write today for book, "The Great Fortunes Made from Gold Mining," and full particulars about our new guaranteed system of selling.

We also have a plan by which you can secure an interest in this company without investing a cent.

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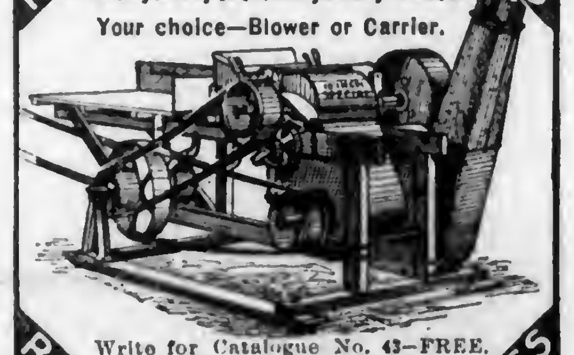
When you buy the ROSS you buy the best
Your choice—Blower or Carrier.



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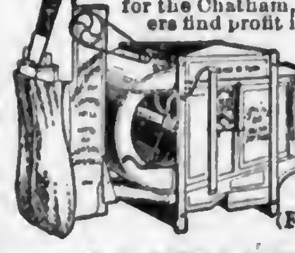

THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How Long Shall Manure Stay in the Stable.

D. W. Flam, Mt. Healthy, O., asks how long it is advisable to leave manure in the stable, and refers to the illustration of a hook for hauling out manure by Geo. Good, in July 4th issue, saying he does not understand it. The common practice of most dairymen is to clean out cow stables daily. They usually have a drop, or gutter, so the cows are not soiled by lying on manure. I would have the gutter deep and wide enough to hold the manure for two days, so no unnecessary work need be done on Sunday; say 8 inches deep and 20 wide, and cows three and a half feet apart. A little land plaster sprinkled on the manure will prevent odors fouling the air of the stable. Dry earth will do the same. Now, to go to the other extreme, O. C. Gregg, Supt. of Institutes in Minnesota, cleans out cow stables about once a month. His stable is divided into pens, say each one holding six cows and having about 20 feet of manger. There are six stanchions in each pen. The cows are all dehorned, of course. They are fastened in stanchions only while they are being milked and fed. The rest of the time they are loose in the pens. No more room is required than in the common way of keeping them fastened all the time. Straw is added freely twice a day and land plaster is used. Care is taken when putting in straw to get the manure down and keep the straw on top. Much straw can be worked into manure when cows are kept in this way. A cement floor will prevent all loss of liquid and help to make the manure of excellent quality. Friend Gregg tells me he has no trouble to keep the cows reasonably clean. That is the weak point usually with this method of stabling cows. About once a month they select a pleasant day, when cows can be out, and take the manure to the field. I have been to farms where all the cows, in one case hundreds, were kept in one great manure shed, except when eating grain and being milked. Silage and hay were fed in mangers in the shed. All the cows ran loose together. In this case the manure could remain all winter, or be taken out occasionally, as one desired. Where it is to stay all winter the mangers should be fixed so they can be raised as the manure accumulates. With the free use of land plaster, or acid phosphate, and straw, the air is kept pure and the cows have a fairly dry and clean bed to lie on. With a cement floor beneath there will be no loss of manure to speak of. An ordinary manure shed, where cows, or cattle, are stabled and manure taken out to the shed daily, does not need a cement floor. Where stock stay in the shed all the time, about, there should be one, as then much liquid manure is being dropped there. In the stable this is absorbed by straw, if there is a cement floor, before the manure is taken to the shed, and if enough straw is used it does not leach any to speak of afterwards. The writer has wintered scores of calves and yearlings in pens, say 10 or 15 in each one, and let the manure accumulate all winter. The animals were shut in stanchions while eating, to prevent waste of feed and to give each one a fair chance. It is an excellent way to use up straw, and if enough is used, and land plaster is sprinkled around daily, and the pens have plenty of windows, so placed that the sun can shine in, the young stock will do nicely. But, unless you will see to it constantly that these conditions exist, do not try to winter them in this way. A pen of this kind if neglected soon becomes a terribly filthy place; but properly managed there is no better way. The writer kept his horses in box stalls in about the same way, when he did the work of the farm, only there was but one in a stall. The stalls were not boarded up on the sides that came together only about six feet. Thus air and light could pass through above and the horses could visit together. With cement floors beneath, and plenty of straw used, a large amount of manure could be made. The valuable liquid that soaks through the cracks of a plank floor wet up the straw and was saved. I always used land plaster daily, and in hot weather, even, the air of the stable could be kept reasonably pure and free from odors. A horse walking around loose packed the manure so there was little heating. We usually took out the accumulations about once a month; it was a surprise to see how much. A rainy day was usually selected for this job and daily chores prevented. We keep our driving horse in this way now. She can walk around and get exercise when not in use. With due attention it is a humane and comfortable way of stabling a horse, and considering the amount of manure that can be made, where one has plenty of straw, it is the best way I know of. But many prefer to do chores daily, no matter how busy; but I prefer to let the hired man make a day of it, sometimes when it rains. And when cleaned daily one practically loses the valuable liquid. Where horses are kept in box stalls, or cows in pens, or manure sheds, one can take manure directly from the stable or shed to the field, if he wishes, to the very best advantage. He can select a time, you see, when the ground is frozen, or dry, so the fields will not be cut up. If the snow is deep, or it is too cold to use a manure spreader, he can wait until the weather moderates and snow settles, or perhaps goes off. Friend Flam says he is a beginner. Perhaps from this article he can study out how long it is best for him, in his circumstances, to leave the manure in the stable. I do not myself understand just how Mr. Good draws out manure, practically, with the hook illustrated in the number of the P. F. mentioned above.

Managing Clover so as to Increase Fertility. — H. E. Tweed, Ripley, Ohio, writes: "With a fine clover crop, we who would preserve the fertility of our farm are up against the question of whether it will injure our land to cut the first growth, supposing that a vigorous second crop follows. What is your opinion?" No, it will not injure your land in the end to cut the first crop for hay, if you manage rightly, and it will increase your income. It is the wisest way to do, as a rule. It is true that you are taking considerable fertility off from that field with the hay crop, but by feeding it out on cement floors you may put back on the farm on the average about three-quarters of the manurial value of the clover crop. If you purchase a little wheat bran, or oil meal, or cottonseed meal, as you should, to feed with the corn and stalks that go with the clover hay, you may easily put back fully as much manurial value as you took off. Now, the second growth of clover that follows will be all the better for having the first crop cut off early, and, as a rule, it is enough to plow under at one time, where one desires to so dispose of the crop. But again, as a rule, I would cut this second crop also for hay, or seed, and get the stock feeding or cash value of it and the manurial value also. There are some farmers so situated, however, that it is best for them to plow under the entire crop, or the second growth. I know some of them. It was wisest for us to plow in the second crop for years and turn it directly into potatoes that brought us about $100 an acre. Had we been growing corn it would not have paid anything like as well, you see. Further, one may have some field far from the barn, or he may have more clover than he can feed out to advantage with the barn room that he has, or he may have some poor land, under which circumstances all the clover may be turned under sometimes to advantage. But as a general rule I strongly advise the cutting of it all for hay, or seed, or the feeding of it off, rather than plowing it under, to bring up your land and keep the pocketbook filled; that is, if you have cement floors in the stables so you can save all the manure.

Health Hints.—How Many Meals on Sunday? — D. J. writes as follows: "What have you to say in regard to two meals on Sunday, where the family is accustomed to having three on week days? Sunday is a day of physical rest; would it be helpful, or harmful, to give the stomach a partial rest? It would make less work for the women to have but two meals and that would be a good thing. If you advise this plan, should they be full meals?" It has been the custom in our family as long back as I can remember to have but two regular meals on Sunday. Thousands of other families do the same way. We would have dinner along about one or two o'clock; then if we cared for a light lunch at night we ate some bread and milk, fruit or something of that kind. The table was not set and no dishes to speak of dirtied. Seems to me this is the proper way for people who are in the habit of eating three times a day on week days. And I would go further and suggest that the breakfast and dinner be rather simple meals. They may be full, that is you may have all you want of good food, but let it be dishes that it will require but little time to get ready, so as to make the work of the women as light as possible. This is simply a matter of justice to those who must work more or less at regular duties seven days in a week. Let the Sabbath be as much of a day of rest from our regular work as possible. A dinner that could be picked up in 5 minutes, without the use of fire, has always satisfied me. The good wife can look ahead a little Saturday and have cold meat ready, and this, with good bread and butter, cheese perhaps, and fruit, fresh or canned, milk and a generous piece of plain, wholesome pie, is good enough for me. But now in regard to dropping out one meal Sunday because one is not working much. If you are eating too much usually, why it might be helpful, the same Sunday as any other day. But supposing you are not eating over much, that you are a healthy person with a normal appetite, what then? Eat all the plain, wholesome food your appetite calls for, three times if you are hungry. It would be a mistake to eat less than you wanted that one day because you were working less. It takes strength to digest food. During the rush of the week you may not have digested quite enough to hold your own. You have the strength to spare to digest rather more on Sunday, perhaps, and thus catch up ready for six more days of labor. Better be easy with your stomach when you are working to the limit of your strength, rather than on Sunday when you are resting. The same question has been asked about horses that were idle on Sunday, or on an occasional rainy day; should they be fed less? I think not. Let them pick up during their rest days. This does not apply to long spells of inactivity.

Ice Cream and Candy.—Here is another one: "Many farmers make ice cream warm summer evenings and eat it as a lunch, or fourth meal. Does this make them better fitted for their work the next day?" Well, no, it probably does not, particularly if they eat cake with it. When they get up the next morning, if they are honest and observing, they will probably acknowledge that they feel slightly below par as a result. And still few of us would refrain from eating the ice cream. If eaten very slowly, so it becomes fairly warm before it is swallowed, it would be an exceedingly small indiscretion for most healthy people. It certainly would be better not to eat cake with the cream. Should any of you bring me a nice dish of ice cream I would prefer to have it with my supper, but if it came later I should certainly thank you and proceed at once to enjoy it. If there is any one dish in the world that would tempt the writer to forget for the time what was best for his stomach, it is pure ice cream. Again, the question that follows is asked: "Some advise the use of candy; some say it is detrimental. Is there any general rule that governs, or must each one find out for himself how candy agrees with him?" First, no one should eat any but pure, uncolored candy. This is a safe general rule for all. The cheap, adulterated, highly colored candies should be let entirely alone. If they are very cheap you may almost know they are adulterated. Pure candy is merely sugar, and sugar is good food and entirely digestible, within limits. But you know it is a condensed product; therein lies the danger. Sugar as given us by nature, is all right, as we get it in vegetables for example. When we extract the pure sugar and throw away the rest and eat the unnaturally condensed product, it should be with reasonable moderation. Some certainly can safely eat more sugar than others, and we can safely eat more at certain times than others. Sugar is fuel to keep up the heat of the body. It is craved more by a healthy appetite in cold weather than in warm, and this is entirely natural. There is much in habit, however. It is well to use it sparingly in warm weather, no matter what our desires are. A moderate amount of pure candy for active children who go out in the cold in winter will rarely do any harm, in fact, is needed food often. The desire for it is nature's call for heating food. The writer eats quite a little pure candy, or maple sugar, in winter, at meal times. He craves it. In the summer he rarely cares for any. Here is an experience right to the point: June was an exceedingly cold month, and I ate sugar freely on strawberries. I wanted it. Years past, when the weather was usually warm, I never wanted any. An undue amount of sugar in hot weather is likely to cause the human engine to run at too high pressure and make us feel the heat more. The sugar we naturally get in fruit, vegetables, etc., is nearly enough for most people.

T. B. Terry.

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Another View of the Question.

I. C. OLIPHANT.

I have a high opinion of the influence of the P. F., and therefore greatly regret the tone of its references to the scheme for the irrigation of the arid West. In the hope of removing some misunderstandings, I ask your permission to lay the case before your readers, as it appears to us in the regions affected.

To begin with, the proposal is by no means considered as an extension of the homestead act, which is evidently inapplicable to land that sells, when irrigable, at forty dollars an acre, uncleared, and of which ten acres will support a family. So far as I am aware no one has been so foolish as to suggest that anyone should have the right to take possession of 160 acres of this land when irrigated. It is taken for granted in every proposal that the land should be sold to settlers at a price that will repay all costs; the general idea is that it should be a profitable enterprise to the Government. The real question is whether this land is to be developed by the Nation, which owns it, or by others. Private enterprise is only possible on a small scale, with a consequent waste of effort, and a conflict of interests that will grow always sharper as the available water becomes scarcer. State action is impracticable, as the rivers mostly flow through two or more States, and what one takes another must go without. One does not need to be a socialist to hold that this is pre-eminently a case for federal control.

North Yakima, Wash.

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City vs. Farm.

C. J. EGGERICHS.

Please send me by return mail a copy of Prof. Massey's book, "Crop Growing and Crop Feeding," (paper cover); enclosed find 50 cents. I am a farmer first, last and all the time, but to follow farming as a farm hand, the conditions are such that I must choose city work and life. I see in your paper and other farm papers, including the Country Gentleman, a cry of scarcity of farm help. Now why is this? I know several good, sober, hard-working young men in this city who are farmers and prefer farm work to any other kind, who would be glad to be on the farm if they could find on the farm a feeling of home life that would include the hired man, instead of being made to feel that they are simply endured because of necessity or like any other beast of burden. There is no reason why the farmer should not be able to pay as high wages as any other employer and get his choice of help, for surely the best men are willing to take farm employment if the employer is willing to do unto them as he would that they should do unto him if the positions were reversed. In your editorial of July 4th issue, on "Work Hours on the Farm," you tell a very wholesome truth in favor of business principles and common sense. On page 569 the Country Gentleman publishes a clipping from the Skaneateles, N. Y., Free Press, which seems to me a bitter and most humiliating confession of the farmers' want of business ability to run his farm on a paying basis. Will the farmer of Onondaga Co. confess that it is his own son's unreliability which drove him from home to work in a factory at $1 a day on "boarding house" fare? If the sons of farmers leave the home nest—"break the ties which bind"—to take up a life in the cities of our land, there must be something wrong surely with the farm life and management; and if it is not congenial for the sons and daughters in the farm home, what can the farmer offer the "hired hand" as inducement to work for wages, after proving his own incapacity to make a home profitable and desirable for his family. Nearly all of the writer's 42 years of single life were spent on the farm and would gladly be on the farm today as his own employer, but his means preventing, he must either choose city board or rural serfdom—I prefer the former. Your paper is no doubt doing a grand work helping some at least to use better methods of work on the farm, but those who are still in the old ruts, their numbers are legion. The gospel of better work, better pay and better homes, is not nearly worn out—let it be preached evermore, to the help of many.

Cleveland, O.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Pasture and Peaches in Pa.—J. W. F., Baxter, Pa.—"I have a field of strong land but rather stony, formerly wooded with white oak, chestnut and hickory, and now badly overrun with sumac. I cut it every year, but it still grows. I want to seed to permanent pasture. What kinds and how much seed shall I use, and what fertilizer will be best? I have never used anything but red clover and timothy, and they run out in two years. I have also a hillside lying south and east, in good condition. Land is gravelly and loose. I want to plant peach and plum trees Can I grow these trees without cultivating them if mulched, as it is steep and liable to wash?" For grasses for the pasture refer to reply we made to Mr. Gilmer in Aug. 1 issue, for same mixture will suit you as well. Timothy is not a good pasture grass. Not that it is not eaten and relished by cattle, but because its shallow roots are soon either pulled out by the cattle or burned out by the sun. The orchard grass is far more permanent and will hold the ground until the blue grass gets established. Then keep the sumac down by frequent mowing with the mowing machine while small. The mower is the best thing to clear land of sprouts. If you want to use a commercial fertilizer on the grass the best thing will be a simple application of 200 to 300 pounds per acre of raw bone meal. The nitrogen it contains will help the grass to an early start and the phosphoric acid in it becoming slowly available will feed the grass longer than a more quickly available article. It is possible that the trees may live and grow on such land as you mention without cultivation if well mulched and manured. But land lying towards the south and east is a bad location for peach and plum trees, as they will be exposed to the earliest sun in spring and will be apt to start too early and have their blossoms killed. A northern exposure is best. If you plant the trees around on the level of the hill and not in straight rows, and then make all the plowing and cultivation on the level and never up and down the hill, you can work the trees with little danger from washing, and by putting whatever stone is on the land in the rows to gradually form terraces you can still further check the wash and get rid of stone. After the trees are well grown they may be left uncultivated and mulched.

Rotation for Stock Farm. — A subscriber, who does not wish his name used, asks for the best rotation for Middle Tennessee, for a stock farm. "I wish to improve the land, providing forage crops other than corn. I intend to feed corn and other forage stock. I want to pay especial attention to hogs and cattle with some sheep. Give me the best cover crops for winter, as I want to keep the land covered with growing crops as much as possible." Without knowing the exact locality and the nature of the land it may be difficult to arrange a rotation that will entirely suit. But one can soon learn from experience what is the best. I would suggest that you use a four year rotation. Put all available manure on land for corn and break the land thoroughly, and cultivate the crop shallow and level. Before the last working of the corn sow one bushel of cow peas per acre and work them in in the last cultivation. Cut and shock the corn as soon as well glazed, and plow and sow winter turf oats and hairy vetch for hay, using two bushels of oats and 25 pounds of vetch. Drill the oats and then sow the vetch and harrow with smoothing harrow. After harvesting the hay crop prepare the land well and sow peas again for hay. Cut the peas and cure them, and then with the cutaway harrow prepare the stubble well and drill to wheat, sowing red clover with the wheat. After wheat harvest, when the rag weeds start, run the mower over the stubble to clean the field. The following year cut the clover twice, and in the fall and winter get out all the manure you have made on the clover sod for corn, and then repeat. On the peas following the oats use 300 pounds of acid phosphate and 25 pounds of muriate of potash per acre, and the same amount on the wheat. Finally you will need the fertilizer only on the peas. Run the corn through the husker and shredder so as to have the stover in the best shape for feeding. For the hogs we would have two or three lots fenced and sow one of them early as practicable in early peas, then the next as soon as the first appears above ground and then the third. Turn the hogs on as soon as the pods mature and change to the second lot when the first one is eaten down. Then as the lots are eaten down prepare the land and sow it in Dwarf Essex rape to make feed for the sheep and young pigs in fall and winter. Have a permanent pasture of orchard grass and blue grass, to be finally blue grass, and avoid pasturing the cultivated fields as much as possible. This rotation should give you plenty of forage to balance the corn with, and the wheat can be a sale crop and also furnish straw for bedding.

Alfalfa in N. C. Mountains.—H. L. Steele, Glen Inglis, N. C.—"I have only about two and a half acres suitable for alfalfa. It is now in soy beans. I propose, when the right time comes, to drill two rows of alfalfa between each two rows of soy beans, which are three feet apart, using an Iron Age garden drill. The soy beans are making a good crop. Will they furnish the necessary microbes for the alfalfa? I expect to cut the beans with a mowing machine if the stalks do not get too hard. Kindly say exactly when the alfalfa should be sown and number of pounds per acre." You may succeed by sowing in this way, but we would rather cut the soy beans first and then prepare the land by deep and thorough plowing and harrowing, and would sow the alfalfa broadcast about the last week in August or the first week in September. Sow 25 pounds of seed per acre, and if you get a stand give it a light dressing of freshly slacked lime in the early spring before growth begins. A barrel of stone lime will slake enough to a powder for an acre. If the rag weeds get started in the fall and threaten to overtop the alfalfa clip them with the mowing machine. We do not think that the same bacteria infect the soy beans. It is probable that the manager of the Biltmore farm has soil infected with the alfalfa microbes, and that he will supply you with about 100 pounds of soil per acre. You can cut the soy beans nicely with the corn binder and thus put them in bundles handy to set up and cure.

Crimson Clover. — W. S. Perdue & Sons, Parsonburg, Md.—"Can we get a stand of crimson clover in a field which is sown in cow peas in rows forty inches apart, by sowing the clover seed at last working of the peas about the first of August? Land black sandy, and will make 50 bushels of corn per acre." There should be no difficulty in getting a stand of crimson clover among these peas if the seed are sown while the land is fresh from the last working so the first shower will cover it sufficiently. Right in the rows the shade may be rather heavy, but the clover needs some shade at that season. We have a very heavy piece of peas sown broadcast, which we intend to mow and leave a high stubble. Among this stubble we will sow the crimson clover seed without any working whatever, and feel more certain of getting a stand than if we prepared the land by plowing the stubble under and exposing the young clover to the sun. If you gave the peas a dressing of acid phosphate and potash it will answer, but that black land in your neighborhood we are perfectly familiar with, and know that potash will have a fine effect on it when in combination with acid phosphate, especially for legume crops. It is rich in nitrogenous organic matter, but deficient in potash. If none was given to the peas we would suggest that you try a portion only by sowing before the last working 300 pounds of acid phosphate and 25 pounds of muriate of potash per acre. Do not use this on all the land, but only on a part so as to see whether our surmise is correct.

Grasses for N. C. — T. T. Harris, Woodsdale, N. C., wants to know all about what grasses he should sow, when to sow, where to get the seed and how much per acre, for hay making. Says that he has gray bottom land, red, hilly land and flat land elevated above the hills with fine, gritty gray soil and yellow subsoil. Would also like to know what labor saving implements he will need, and what manufacturers will sell them to farmers at wholesale rates. Has 200 acres in cultivation out of 400, and wants to get the land in three or four shifts with but little cultivated crops, as labor is getting very scarce. It is probable that your bottom lands will make good grass, but we expect that the uplands in your tobacco growing section are on the thin order and will need development before they will grow grass profitably. What you need rather than grass as a sale crop is forage for the feeding of stock. You can get this in your section, and build up your land for the production of grass, better with the cow pea than anything else. On the bottoms we would prepare the land well by plowing deeply with two, or, better, three horses to a plow, and seed a mixture of meadow fescue 10 pounds, tall meadow oats grass 10 pounds and red clover 6 pounds, sowing the seed in September or October. Then put your uplands in four fields and make a rotation of corn, with peas among it at last working and follow with winter oats and hairy vetch to be cut for hay. Then sow cow peas also for hay, giving them a good dressing of acid phosphate. Cut the peas and put the land in wheat and hairy vetch for hay, seeding at same time a mixture of clover and orchard grass. Mow the grass one year and then repeat the rotation, feeding all the stock that your hay of various cereals and peas will feed, and put all the manure on the sod for the corn next spring. In this way you will soon get your land up to the production of heavy crops of grass, and by saving the manure carefully you can improve the production of your farm, and make a profitable stock farm of it. To answer all your questions fully would take a great deal of space and would be giving free advertisement to dealers, which we do not do. We expect to hold a Farmers' Institute about the 19th of August, at Roxboro, your county seat, and if you will attend that Institute we will be glad to answer personally all the questions you may wish to ask.

Permanent Pasture. — H. H. Long, Lancaster Co., Pa.—"I have a piece of ground which I want to put in permanent pasture. Please tell me the best time to sow, what grasses and how much seed per acre. The land should be in clover sod, but owing to dry weather failed to catch, so there is little grass and a great deal of plantain on it. My plan is to plow it soon, cultivate it frequently and sow to wheat in September, sowing the grass with the wheat, and perhaps a little clover in the spring." You have doubtless been sowing low priced clover seed which was not re-cleaned and hence sowed plantain rather than clover. It always pays to get the best re-cleaned clover seed even at twice the price of the ordinary, for cheap, or rather, low-priced clover seed is not only more costly so far as the actual amount of clean seed in it is concerned, but it introduces plantain and other weeds which you do not want. In buying clover and grass seed especially go to the most reliable parties and pay the best price for the best seed if you want to keep clear of weeds. We have so often of late given directions for permanent pasture seeding that it seems like a repetition here. On your Lancaster Co. land we will assume that blue grass is the best permanent sod you can get. But blue grass is a little slow, and hence it is better to sow a mixture of other grasses to make the pasture while the blue grass is getting possession, as it will finally on soil that suits it. We have had the best success on such land by sowing the following mixture per acre: Orchard grass, 10 pounds; red top, 5 pounds; Kentucky blue grass, extra clean seed, 10 pounds, with a little white clover scattered over after the grass seeds are sown. Of course you can sow with wheat, but the best sod can be had by sowing the grass alone in September or early October. You will get the sod established more quickly without the wheat, but of course the wheat will pay the expenses and you may be able to afford to wait longer for the sod. The orchard grass will naturally run into tussocks and among these the blue grass will find shelter from the sun and will gradually take possession. The red top will make the first growth and will soon run out on upland as the orchard grass will finally, as the blue grass gets hold.

Fertilizers in Missouri.—B. W. Hale, Laddonia, Mo. — "Will Prof. Massey please answer the following: I have oat stubble land which I want to put in wheat. Land stiff clay and run down with continuous cultivation in corn and oats until it will make but about 25 bushels of either crop. I want to start a rotation of wheat, clover, corn and oats on this land. What fertilizer and how much per acre should I use on the wheat this fall to insure a paying crop of wheat and especially a stand of clover? I have but little barnyard manure and intend to spread it on the clover sod for next spring's corn. Is that the best practice? In short, any advice you can give will be appreciated." It would have been much better for the land and for the wheat crop if you had sown cow peas on the oat stubble after a good plowing. This would not only have given you help in the wheat crop but would have done away with the need for late plowing for the wheat, as the plowing after the oats were cut would be all that is needed, and the cutaway or disk would put the pea stubble in the best condition for the wheat. But as you have not done this we would use on land of that thin character a complete commercial fertilizer for the wheat. We would suggest a mixture of 1,200 pounds of acid phosphate, 600 pounds of tankage and 200 pounds of muriate of potash to make a ton, and would use 300 pounds of this per acre. This is as little as we would use, and it may pay to use more. In following oats with wheat it will always pay you to sow peas on the oats stubble even if you do not get growth enough to pay for hay, and a good dressing of acid phosphate and potash only on the peas will give better results in the wheat than a complete fertilizer applied directly to the wheat. Then, too, in putting oats after corn do not allow the corn stubble to lie bare all winter, but sow something green on it to plow under for the oats, even rye if nothing better. Over 40 years ago the Editor of the P. F., then quite a young man, was engaged in the first surveys of the North Missouri R. R. up the Grand Divide, and at that time the men who had begun to break the prairies ridiculed the idea that the land there would ever need manure. Now we find bad farming has run it down as it has the land in the East.

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"For the land's sake"—use Bowker's Fertilisers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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Well Drilling.—A profitable business for men of moderate means to engage in is well drilling. Plenty of water is wanted everywhere. The farmer suffers the loss of many a dollar for the want of it during a dry spell. The modern country home is not complete without an abundant supply of water throughout the house. Artesian wells on the farms and premises are a necessity in many parts of the country. Besides there always exists an opportunity of striking it rich by successfully drilling for oil, gas or coal. Well drillers and those who are looking for a paying business should send to the Loomis Machine Co., Tiffin, Ohio, for further information and catalogue of up-to-date well drilling machines. Mention P. F. when writing.

A LETTER TO OUR READERS.

NEW HAVEN, Addison Co., Vt.
Dr. Kilmer & Co., Binghamton, N. Y.

Gentlemen:—About a year ago I was suffering from what I supposed was rheumatism. I became so bad that I could hardly get on my feet from a sitting position. I run down in weight from one hundred and ninety-five to a hundred and forty-five pounds. I tried different kinds of medicine but received little or no help. I saw Dr. Kilmer's Swamp-Root highly recommended for kidney trouble, but I never had any idea that my kidneys were effected. I thought I would try a fifty-cent bottle of Swamp-Root and see what the effect would be. I commenced taking it according to directions and in a few days I saw that it was helping me. I used the fifty-cent bottle and then bought two more dollar bottles, and they completely cured me. I have got back to my original weight one hundred and ninety-five pounds, and I am a thorough advocate of Dr. Kilmer's Swamp-Root. Very Truly,

Feb. 17, 1903. WM. M. PARTCH.

You may have a sample bottle of this wonderful remedy, Dr. Kilmer's Swamp-Root, sent absolutely free by mail, also a book telling all about Swamp-Root. If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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BALES 15 TONS A DAY HAY

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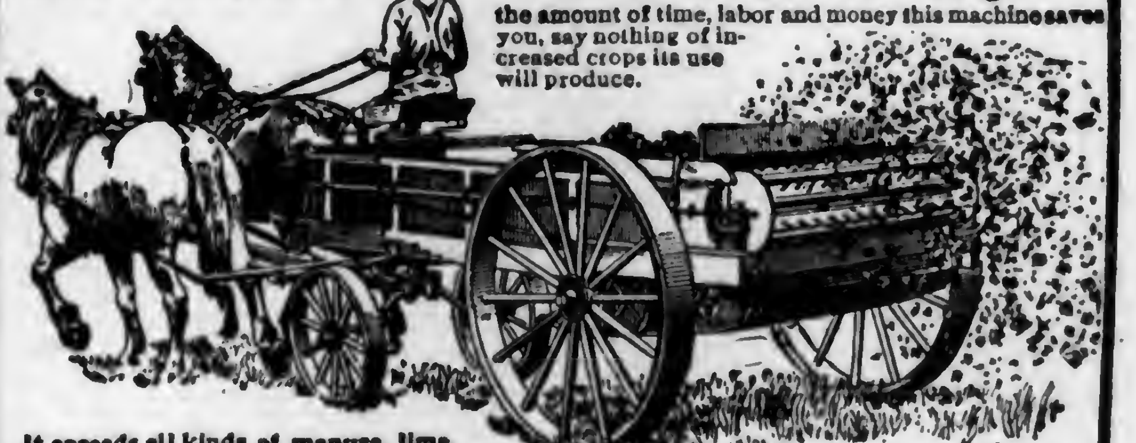

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Building a Silo.

PROF. A. M. SOULE.

The value of silage for feeding to both beef and dairy cattle has been so well established that it is hardly worth while to enter into a discussion of its merits or the wisdom of constructing a silo on the average farm where live stock is an interest of any moment. The silo has come to stay and will increase in popularity with the growing necessity of producing beef and milk on the cheapest possible basis. Though the silo has now been in use in some sections for many years there are some in every community who are more strenuously opposed to it today than ever before. These are persons who have had the misfortune to attempt the construction of a silo without an adequate knowledge of how to build one, and by reason of careless construction have lost the crops placed therein and so are unreasonably prejudiced against their use. These people imagine that no silo can be or is a success, and so far as they are personally concerned it is best to let them alone because their prejudice is not only ill-founded but so unreasonable that it can never be changed. The harm these people do in any community is through the circulation of malicious stories concerning the silo, which destroy the faith of many who are interested in the erection of the same in other sections, and so prevent the construction of one of the most valuable buildings on the farm. Those who are interested in the silo should not be led astray by those who have failed, as the number of successes on record is the only evidence needed to establish their value for the preservation of food in a succulent and economic form.

The advantages of the silo may be summarized thus: First, the storage of an immense quantity of food in a small space; second, its preservation in the most desirable and palatable form for feeding; third, handling the crop but once; fourth, clearing the land to permit of its seeding to fall crops, and fifth, the preservation of as large if not larger quantity of the feeding nutrients in the crop than can be accomplished in any other way. The kind of silo to construct will be modified by circumstances, as there are innumerable types in successful use. If one has the money with which to make a permanent investment the cement silo is the best type to build, but only comparatively few have the capital necessary to invest in such a structure. A brick silo may also be built, a brick lined wood silo, a lathed and plastered silo, cement coated silo, stave or tub silo and a rectangular silo. The rectangular silo with the corners cut off is a very good type, though it is hard to build the walls stout enough to prevent their springing and so letting in air, which results in the spoiling of the silo along the outside. The springing of the walls accounts for the failure of many silos and is probably the reason why those constructed a few years ago frequently proved unsatisfactory, thus arousing the bitter antagonism to the silo which exists in some communities.

For all practical purposes the round silo is probably the best form to construct, and it will not be possible in the limits of this paper to describe more than one type. Other types may be quite as good and may not cost any more, but the one suggested is certainly practical and efficient, and if constructed of good materials by intelligent workmen is possibly as cheap and satisfactory as any other type. If constructed carefully in the beginning there is no reason why it should not last for a good many years. Some of these silos have been in continuous use for 10 to 15 years and are apparently as good today as ever. One reason why so many wood silos prove so unsatisfactory at an early date is due to the fact that they are not constructed so as to ventilate properly, and hence moisture accumulates and causes their early decay, whereas, if properly ventilated they might be preserved in good condition for an indefinite period.

The foundation of the silo may be made of either brick or stone and should be at least three feet high, two feet of it underground. The foundation is raised one foot above the level of the ground so as to prevent the decay of the sills. The walls will vary in thickness from one foot to a foot and a half. One foot is thick enough as a rule, although it might be convenient to build thicker walls where stone is the material used. The circle for the foundation is easily obtained by placing a stick at the centre of the chosen site and attaching a string thereto 8 feet long if a silo 16 feet in diameter is desired. This will be the inside diameter; to obtain the outside diameter make the string 1 foot longer. The inside of the foundation should be plastered with a good coating of cement, made of two parts of sand and one part of Portland cement. The floor may be grouted to a depth of 3 inches and then have a coating of ½ to 1 inch of cement put over the surface to finish off. It is not necessary to put a cement floor in the silo as the earth if well tamped will answer very well.

The site for the silo should be carefully chosen on a well drained piece of ground so that seepage water will not enter. It should also be conveniently placed with regard to feeding; if possible at the end of the barn so a chute may be constructed from the top of the silo over the doors so the food may be thrown down through it directly into the stable. If there is fear of the silage tainting the milk a feed room may be constructed at the base of the silo just outside the barn. If the doors of this room are kept closed except at the time of feeding and the room well ventilated there is no danger of the odor entering the stable and affecting the flavor of the milk. The foundation of the silo may be made of 2x6 pieces cut 2 to 3 feet long to the arc of a circle. The sills may be embedded in the cement and should come flush either with the inside or outside wall. If flush with the outside wall the inside wall should be bevelled inward and downward so as to allow the silage to settle readily. It is possibly preferable on account of the settling of the silage to have the sills come flush with the inside wall. The sills may also be held in place by pieces of iron set into the brick work and projecting up through the wood. On the sills so constructed place 2x4's 12 to 15 inches apart. The height and capacity of the silo will, of course, be determined by the number of animals to be fed. Suppose it is desirable to construct a round silo 16 feet in diameter and 28 feet high. This will have an approximate capacity of 108 tons, and as silage, taking the average from the top to the bottom of the silo weighs from 40 to 45 pounds per cubic foot, it will not be a difficult matter to determine the size of silo to construct to supply the needs of the average farmer.

As the foundation is already 3 feet high and it is proposed to make the silo 28 feet to the plate, it would be necessary to select 10 and 15 feet 2x4's for the studding. Slots may be cut in the ends of the studs and a piece of heavy galvanized iron inserted before they are toe-nailed together. This is to give strength to the joints. As the studs are set up they should be alternated so as to bring a 15-foot piece first on top and then on the bottom for the purpose of breaking joints and strengthening frame work of the silo. The studs should be plumbed towards the centre as they are set up and should be set flush with the foundation wall. Where the doors are to be located place an extra stud on either side of those intended to furnish the door frame. Door space should be at least 24 inches wide, leaving the stud standing between the double studs to be cut out into door space later on. The sheeting for the silo may be made of 2x6 ripped into four pieces, which makes the boards when dressed a little less than ½ inch in thickness. First class lumber should be selected for this purpose. Boards containing knots or shaky places should be thrown to one side. Commence at the bottom on the inside of the silo and run the ½-inch boards around nailing securely to each stud. The outside of the first boards need not be planed. After the first layer of sheeting has been run up some feet put on a layer of acid proof paper, being careful to lap securely, and then put on another layer of boards, which had best be dressed on both sides, being careful when the second layer is put on to break all joints. Do not use building paper or common tar paper as it is not effective, being easily destroyed by the acid and absorbing moisture which results in the early decay of the silo. Make certain to get the best quality of acid proof paper. The plate to the silo may be made of 2x4s cut out in the manner of those used for the foundation pieces and toe-nailed securely to the top of the studs. In the Southern States it is not necessary to put any lining on the outside of the studs unless for the purpose of improving the general appearance of the silo. In the North, where it is much colder, this may be necessary in order to obviate freezing. Where it is considered to be essential one layer of weather boarding may be used or one layer of plain facing with a layer of building or acid paper and weather boarded on the outside. When the outside of the silo is boarded up vents should be left at the bottom, over which heavy wire screening is placed to allow the free circulation of air between the two layers of boards to keep the silo thoroughly dry and prevent the decay of the wood.

The doors of the silo should be placed over each other between the double sets of studs referred to and from 2 to 2½ feet apart. The layers of sheeting should be cut out between the studs to make the proper opening. The doors should be about 2 feet wide and about 2½ feet high. The doors may be made of tongue-and-grooved flooring nailed and screwed to another layer of the same stuff laid crosswise to the first. A heavy sheeting of acid-proof paper should be put between the layers. The doors should be placed against the jambs formed by the double studding and held in place by lag screws. These should, of course, come flush with the inside lining and with the vertical boards inside. In order to make the door jamb perfectly air-tight it is well to put a sheet of rubber all around the jamb. Probably a conical roof is the cheapest and most satisfactory form to construct. If the silo is built next to the barn any form of lean-to roof will prove satisfactory, but it is not necessary except as a matter of convenience to have a roof over the silo. Unless a lean-to roof is constructed a dormer window should be left in the conical roof so as to facilitate the filling of the silo. A shingle roof may also be used. Any carpenter can design and construct a roof for a silo without much difficulty.

Tennessee Experiment Station.

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THE SHARPLES CO., Chicago, Ill. P. M. SHARPLES, West Chester, Pa.

THE U. S. EXCELS ON ANY TEMPERATURE

Our "would-be competitors" the DeLaval Separator Co., finding themselves badly beaten in the six weeks' tests of six different makes of Separators at the Kansas Agricultural College, as shown by the official Bulletin No. 123 issued May 26, 1903, in their efforts to break the force of so disastrous a defeat, have compiled a Bulletin of their own "getting up" purporting to be signed by several students, in which they try to make it appear that the DeLaval was not terribly beaten, as the Official Bulletin shows it was, as follows:

Average test of skimmilk of DeLaval Separator .048
" " " U. S. " .033
U. S. excels DeLaval .015

Showing that the DeLaval Separator left 45 per cent. more butter fat in the skimmed milk than the United States.

Again in this "gotten up" Bulletin, our "would-be competitors" state that the U. S. Separator "choked up" on 39 lbs. of milk at 70 degrees of temperature and that the DeLaval ran 80 lbs. Every dairyman using a U. S. Separator knows that the U. S. will not "choke up" on 80 lbs. of good milk at 70 degrees, and that such statements are made in an attempt to break the rapidly gaining popularity of the

U. S. SEPARATOR

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The best authorities do not advocate separating at 70 degrees, but if Dairymen prefer to, the U. S. will do it when properly adjusted.

The U. S. Separator skims cleaner than any other separator on the market at any temperature from 70 degrees to 156 degrees at proper adjustment. The Official Bulletin No. 123 of Kansas Agricultural College, dated May 26, 1903, states that

The U. S. Excelled All Others in Tests of Skimmed Milk and in Minimum Total Loss.

THE U. S. SEPARATOR HOLDS WORLD'S RECORD

Vermont Farm Machine Co., Bellows Falls, Vt.
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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Impaction.—Cough. — I have a horse about 10 years old and in good condition. She had skin disease in spring, which I took for mange, dosed her on sulphur and rubbed sulphur and lard on parts of body from which she was rubbing hair, viz., her tail, hind quarters, flanks and just commenced breaking out on neck and shoulders. She seemed to recover from that, and being short of rough food, I cut a patch of rye in bloom, cured well and have been feeding her on that. About two weeks ago she seemed to show slight symptoms of colic; would not eat, wanted to lie down and would look around at her flanks. I drenched her with linseed oil and noticed her excretions were nothing but small balls of rye beards. She seemed relieved by oil for a day or two, then I dosed her again with same effect, and will have to dose her again in a day or two. Have been feeding on bran mash and green food from pasture since first drench. Now she seems to be developing a bad cough. She has not lost appetite, which is generally good; has lost very little, if any, flesh. She drinks very little water, although she never did drink much. C. BURCKMYER.
Hendersonville, N. C.

Rye beards have caused impaction and may also be cause of cough, but that may as likely be due to oil poured accidentally into windpipe. Stop feeding rye. Continue bran mashes and add flaxseed meal. Give large injections of soapy warm water twice daily in rectum. Repeat oil if necessary, using one pint at a dose every 24 hours. For cough give one ounce glyco-heroin and half drachm fluid extract of belladonna leaves every four hours.

Indigestion.—We have a horse which annually develops a boil on the back part of the upper foreleg. It usually comes in May or June, and is preceded by a whitish condition of the urine, and as soon as noticed we give condition powders, which sometimes prevent its breaking and will carry it away in a few weeks. This year it broke. She is fed a moderate grain ration and through winter and spring apples, carrots and potatoes, and is in good order and spirits. Is there any way to prevent a horse from eating the bedding? F. C. CURTIS.
Sandy Creek, Me.

Urine such as you describe, together with the habit of eating the bedding, indicates indigestion, and in this case the blood gets out of order, so that boils may appear. Condition powders are a common cause of indigestion and are quite unnecessary in the management of horses so long as proper attention is paid to the feeding and exercise. Depend upon it, your horse is getting far too much food for the amount of work he is doing. Instead of giving condition powders when the urine is thick, stop feeding grain for a week, substitute bran mashes and good hay and see to it that he gets plenty of hard work or is made to take abundant exercise. When in stable during day time let him stand in a bare stall without bedding, and at night put him in a box stall bedded with baled shavings or sawdust until he gets over the indigestion, when he will no longer eat bedding. The horse eats the soiled bedding for the sake of the ammonia and other salty matters present. Place a lump of rock salt in his manger. Quit feeding potatoes and apples; continue use of carrots in moderation during winter; give drinking water always before, but not after feeding, and prefer soft to hard water. When this method of treatment has been given a thorough trial, should it fail, which is unlikely, then it will be time enough to give medicine which will be found prescribed in our issue of July 18th under head of "indigestion." You do not state location of boil so that we can tell what it is. If it is on elbow it is a shoe boil, and caused by lying upon bare floor or on calk of shoe. When a shoe boil is starting the animal should be kept tied up so that he cannot lie down, until it disappears, and to aid in this bathe it three times daily with hot water then rub well with soap liniment.

Cellulitis.—1. I have a valuable young draft mare that injured left front fetlock one year ago, either by strain or silver. I applied powerful liniment of which cantharides was one part and she got around all right within a few days, but the swelling was still there. I did nothing to reduce swelling, as she was not lame. Now the mare is again on three legs. The fetlock is worse, swollen and two openings from which pus and blood have come out; principal swelling is on outside, although it is some swollen in front and much worse than last year. I have clipped off the hair and again applied the strong liniment, but no improvement. Today I have been applying cold water. The mare seems to be in some pain and lies down a great deal and carries the limb flexed at knee. 2. Another mare was badly calked on front foot last winter; the orifice is now within an inch and a half of end of sole and a fissure or crack extends from coronet to calk hole; in fact, there are two calk holes, and the horn of foot has sprung out where severed, but attached from top. Please say how I can have this hoof put out new horn that will be solid and natural. How should she be shod? There is a partial contraction of hoof. 3. I have a grade Jersey cow, a stripper. Has a spoiled teat. The teat has a thick, viscous fluid like cream; can feel a hard condition of glands or ducts inside of bag like an inch auger bit. 4. I have a thoroughbred Shorthorn cow, also a thoroughbred Holstein heifer, both cows have calves two months old, and neither has been in heat since calving. 5. If you lived in a new country and had to go 50 miles to breed a span of mares to a thoroughbred Percheron stallion 12 or 14 years old but who begets colts with crooked hind legs and sidebones or splints, and another a young grade stallion from a common mare and a Belgian horse, which has not much size, probably 1,300 or 1,400 lbs., but which gets good colts, which would you breed to, the scrub or the thoroughbred? D. P. DAYTON.
McArthur, Idaho.

1. You have a serious case on hand, as a form of blood poisoning termed "cellulitis," is apparently present. Probing may discover the presence of a foreign body, such as a sliver in the wound, and this will have to come away. Do this, if possible, then cleanse wound with antiseptic solution, such as a teaspoonful of Chloro-Naptholeum in a cupful of warm water. Then cover with cotton batting, on which sprinkle freely a mixture of one part iodoform and six parts boracic acid. Each time dressing is removed, at least once daily, inject into discharging places a little of a 5 per cent. solution of protargol. Give internally one drachm of tincture of iron and half drachm quinine in a half pint of water three times daily for a week. When wounds close blister as so often advised in this department of the P. F. 2. Cut out a semi-circular portion of wall of hoof at sole corresponding with end of crack. Shoe with bar shoe. Pare out and cleanse crack at original wound and afterwards keep smeared with an ointment composed of one part pine tar to three of hard fat melted together. Clip hair from coronet and blister twice a month with cerate of cantharides. 3. The less interference with the spoiled teat the better. It cannot be restored and will be liable to give trouble when cow next comes fresh. Meanwhile try to dry up secretion by rubbing spoiled quarter daily with camphorated oil. If discharge continues inject into affected teat once daily a solution of one part peroxide of hydrogen and three parts freshly boiled water at milk-warm temperature. Milk out clean in half hour. At calving time if udder troubles treat as for garget according to instructions often given here. 4. The cows will not breed when calves are suckling, and if calves are weaned it may be necessary to deplete them by spare feeding in yard or on dry pasture. See answer on same subject in issue of June 27th. 5. We would breed to neither. It will be doubtless possible to find a sound, pedigreed stallion somewhere in your country.

Failure to Breed.—How can I breed my cow successfully? She is three years old; seems to be in perfect health. Has been bred six times but failed to bring a calf. Will any drugs help her? J. L. FRIDAY.
Dallas, N. C.

See answer under head of "barren cows" in issue of June 27th.

Contracted Tendons. — I have a good horse 7 years old that became lame in his left front leg last August, which continued to get worse from day to day for several weeks, when lameness seemed to leave him, but the leaders or tendons in back of leg have now drawn his foot back, and now horse walks on his toe and if it gets much worse will pitch forward over his toe. Leg is not feverish, but is slightly swollen behind and below the knee. W. F. MOORE.
Mount Pleasant, N. C.

There is a possibility of helping this case by clipping hair from back tendons and blistering twice a month with a mixture of two drachms each of powdered cantharides and biniodide of mercury in two ounces of lard. Rub the blister in for 15 minutes; wash it off in 48 hours, then apply lard daily. Keep the horse tied up short while blister is acting lest he bite parts. After each blister is washed off turn him loose in a box stall. If blistering does not help then the only hope will be to have the tendons severed by a qualified veterinarian who will also prescribe suitable after treatment.

Sick Mule.—I have a mule 12 years old (mare) that had so-called lampas in spring and was puny. Would bite on wood and would prefer rotten wood, and eat some of it. We had lampas (gums) burned with hot iron quite severely. Would eat hardly any grain, but would eat eggs and cow peas with relish; ate very little hay and grass; inclined to be a little costive in bowels but thought it was on account of little eating. Got quite poor, but was fat in winter. Did not shed off well in spring. Hind legs seem inclined to drag and seemed to be stiff in loins. Made water freely and frequently; about half an hour apart at times. Sometimes would jerk as if in pain when about through urinating. Had bloody discharge from vagina for few days, in small amounts. Jaws seemed to be stiff and seemed to bother in chewing. Food consisted of corn, cracked corn, oats, crab grass hay and grass since; had plenty of exercise. F. A. SCHELL.
Hammond, La.

We suspect that mule is affected with osteo-parosis (big head), which often gives rise to the symptoms noted. If this is the case you will find the bones of lower jaw much thickened. There is no specific cure for this disease, the best treatment being pasture and additional nutritious feeding, including dried blood meal and molasses. On general principles would feed this mule cut hay, wheat bran and corn meal three times daily along with plenty of molasses and water mixed with it. It may be necessary to starve the mule to this food at first, but it will take to it with relish in a day or two. This feeding is prescribed, as it is admirable in chronic indigestion which is present if big head is not the chief disease.

White Clover Salivation.—A Canadian reader says that if those who are troubled with horse slobbering on white clover will try feeding burdock leaves two or three times daily they will find this helpful if not a positive cure.

Flies on the Stock.—One of the drawbacks to stock keeping in the summer season is the ever-present fly. How to keep the stock clear of the pest is not only a humane consideration, but one that affects the pocket-book as well. The best preventive that we know of is "Shoo-Fly," made by the Shoo-Fly Mfg. Co., 1005 Fairmount Ave., Philadelphia. The cost is small and the remedy effectual. Send to the above address for circulars and prices, mentioning the P. F.

The way to lose—the very last single parasite that is annoying and weakening your stock, cutting down your profit is very easy. Dip or sprinkle with CHLORO-NAPTHOLEUM DIP as directed. It kills all germs, mange, itch, ticks, scabs, lice, every parasite that spoils profit for the farmer or stockman. A standard disinfectant approved by high authorities. 1 gal., $1.50; 5 gals., $6.75; 10 gals., $12.50. Freight paid. The West Disinfecting Co., Inc., 15 E. 59th St., New York.

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Cures all species of *lameness, curbs, splints, contracted cord, thrush, etc.* in horses. Equally good for internal use in *colic, distemper, founder, pneumonia, etc.* Satisfaction guaranteed or money refunded. *Used and endorsed by Adams Express Company.*
TUTTLE'S FAMILY ELIXIR Cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience" FREE.
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Avoid all blisters; they offer only temporary relief if any.

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None genuine without our signature on label.
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Get a pair of the famous O. I. C.'s for breeders and you can raise hogs that pay.
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are in demand both for breeding stock and fattening for market. 39 years devoted to the perfection of this breed without the loss of a single hog through disease. We will ship a sample pair on time, giving full pedigree and allow agency to first applicant. Two O. I. C.'s weighed 2,806 lbs. Write to day.
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Half cent's worth saves 3 quarts milk and much flesh. Kills every fly it strikes; keeps off the rest. Harmless to man or beast. NO LICE in poultry house or any place it is sprayed. If your dealer does not keep it, send $1.00 for Improved Three Tube Sprayer and enough Shoo-Fly to protect 200 cows. Cash returned if cows are not protected.
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Circular sent free.
MOORE BROS., Albany, N. Y.

"Just as good!" "Just as good!" Did you say? "Just as good as Veterinary Pixine!!" The dealer who tells you this is mistaken. He does not know.

FACTS AND TESTS PROVE IT!

Emery, Ky., April 9, 1903.
I feel it my duty to tell what Veterinary Pixine did for a horse of mine. He was cut with a knife between the forelegs, 3 inches deep and 2 inches long, which every minute would gap open. I used several different kinds of remedy without success, even to having some stitches taken. Nothing did any good and it kept swelling and became feverish. I almost gave up hopes of getting him well. In the column of the Ohio Farmer I observed your adv. and, as it was the last chance, I purchased a box at the druggists and used it as directed and before the box was used up the cut was entirely well. I intend to keep a supply on hand for emergency cases if it costs a dollar a box. Please accept my thanks for the good I have received from its use and if you choose you can use my name and testimony.
W. S. Campbell, Emery, Ky.

This penetrating, stimulating, soothing, absorbing, antiseptic, healing ointment heals from beneath the surface by disinfecting the parts, subduing inflammation and stimulating healthy granulations, not by drying and scabbing, and stimulates growth of hair, natural color.

Makes quick, clean and healthy cure; heals stinging, burning chronic saddle and collar gall, hopple chafes, abscesses, inflammatory sores and all skin disease. It penetrates, stimulates soothes and heals while the horse works. Money refunded if it fails.

Price, 2-oz. box, 25 cents; 8-oz. box, 50 cents; 5-lb. package, $4.00.

At all druggists and dealers or sent prepaid.

Troy Chemical Co., Troy, N. Y.

Also manufacturers of "Save-the-Horse" Spavin Cure, $5.00 a bottle, with written guarantee.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Growing Celery Plants and Celery.—When on the grounds of the Agricultural College and Experiment Station at Guelph, Ont., early last June, I noticed that the celery plants, even late ones, were all pricked out in flats. I have usually started the plants from seed in flats in greenhouses, and then transplanted into nursery rows in the open ground, in sections or groups of plants rather than in single specimens. There they were allowed to grow to fair transplanting size, and then transferred to the regular celery row to make the crop. I have such nursery rows now, and rows of celery from plants taken from nursery row. A day or two ago I also planted a few rows of plants from flats, grown as I saw them at Guelph, and earlier on the grounds of large celery growers in this State. For home use, where only a few hundred plants are needed, I think this "flat" method by far the most satisfactory. What a difference there is just at this time in the general appearance between a row of plants that were pulled up from the nursery row in open ground, and another row of plants that were transplanted from flats. The one, now only two days after setting out, looks wilted in these hot days, and many of the plants, notwithstanding all the pains that we took in setting them, will undoubtedly die unless we water and shade them. How different the plants from the flats! They stand up like soldiers, even during the noon hours of these hot days, and never wilt a bit even the same or the next day after they are planted out. In short, with the plants from the nursery row, we have to run considerable risks. Success in getting a full stand and a quick growth right along depends on weather conditions, or perhaps special manipulation and protection; while the plants from the flats make success in every direction quite certain. The sky may be cloudless and the sun hot. But even the newly-transplanted celery plants do not mind it but grow on as if nothing had happened. For early celery, I, like most other growers, use the Golden Self Blanching almost exclusively. White Plume comes more and more out of use and favor. For home use I plant some Rose Ribbed Paris. My aim with any celery, of course, is to have them grow as rapidly as possible, and for that reason I use plant foods in greatest abundance. I cover the ground on both sides of the celery row, to the extent of a foot or so, with old compost, or even coarse litter of any kind if I have nothing else, both as a mulch, and to furnish food when the rain or irrigation water is soaking through the mulch.

New Ways of Blanching Celery.—Among the ways of blanching celery, paper, paper or cardboard tubes, tiles, etc., have often been recommended. And yet I do not consider anything so simple and generally satisfactory as blanching by boards. The *modus operandi* has often been described. We take boards that are not less than ten inches, and preferably twelve inches wide, and when the plants have reached some considerable size, we set them up in the shape of a Λ trough over the rows, or rather against the row from each side. The tops are left to stick out from between the two boards (at the apex), no stake, cross-stick or other support being absolutely required. In two weeks of good growing weather, and sometimes even in less time, the plants thus covered from the light blanch beautifully, and are greatly enjoyed by every lover of celery in the family, which means all members of the household. Some gardener in Ohio has just "invented" (patent applied for) a "new method" of blanching celery. He offers the information in a 2-page circular, and a personal right to use the method, all for 50 cents. According to the circular, the plan is very simple. It consists in taking thin slabs of wood about the thickness of berry basket stuff about fourteen inches wide and eight to ten inches long. These can be secured from the basket factories at a small sum. Then dip these in linseed oil and set up to drain. This is only to make them more pliable and to prevent cracking. Then when you wish to blanch celery, take fine wire staples, and fasten a small wire across each end, letting it extend over each side. In one of these wires make a loop. All this can be done at leisure times or on rainy days. Place the wire across the wooden slab and with it upon an iron drive the staple with a light hammer, which clinches it at the same time. Place the wooden slab upon the ground by the plant, standing with grain in wood running up and down with the plant, and having the wires on the side away from the plant. Now, by taking hold of the sides of the slab and bearing gently, you can curl the wooden slab around the plant. This forms a tube around the plant. Slip the straight end of the wire through the loop in the other end and bend back, fastening the slab. Now press slightly on the top of the tube, which excludes the air from the bottom. If on examination the celery shows signs of rot or rust, raise the wooden tube a little and allow the air to circulate about the plant. In a short time the celery will be blanched clear and waxy, and of fine flavor. This is the "inventor's" description. I am far from giving it a general endorsement. For myself I am going to use boards again.

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Early Potatoes for Money.

J. F. WILLIAMS.

I began by buying Terry's "A B C" last winter and carefully reading and re-reading most of it. Taking his advice (as I thought my conditions were favorable) I cut one-eye pieces of seed. As I had been told the Early Ohio was best adapted to our black loam, I bought two bushels of them; then I decided to risk one-half bushel Green Bay and one-quarter bushel Bliss's Triumph. I was urged to give the Green Bay a good trial on my rich town lots. I tried to give each an equal amount of attention, and though the Green Bay did remarkably well I think I made easier money from the Early Ohios. They seemed to mature about the same time, but the Ohios were slightly ahead in yield and much more easily dug, since the few marketable potatoes borne upon each plant were in a cluster near the surface and lying side by side; this is a very important consideration where labor is so high. The Green Bays, however, far excelled the Ohio in smoothness, they being all nearly as round as an orange and absolutely no protuberances or waste of any kind. The Bliss' gave about the same result as the Green Bays, except as to yield, they being far behind the Green Bay's. I expect to plant many Green Bays next year, as I am certain they will outsell the Ohios in the larger markets. The one great blunder I made was in hiring my crop planted. I was teaching and left a man and boy to do the work. I told them to drop pieces not further than one foot apart, and put rows not further than three feet apart, but they disregarded these instructions and planted to get done. I believe I might have had fully twice as much seed planted with better results, as they used about two bushels on almost one-half acre, and subsequent cold, rainy weather caused all our potatoes to make a poor stand. I harrowed once or twice before they came up and gave one deep cultivation, and then finished by dragging a section of an old harrow between the rows about every ten days, and especially soon after showers. I also passed rapidly over them twice with a hoe, taking less than a day each time, and though the field was very weedy I kept almost every weed down until June 20th, when I sold a few at 40 cents a peck. June 22nd I put them on sale in nearly every store in the village and continued thus until all but about two bushels were sold. I sold 36½ bushels in all, at 75 cents to $1.60 per bushel, probably averaging $1.20. This morning (July 18) a dealer asked for 5 or 6 bushels at 75 cents a bushel. At Danville, a city of 15,000 or more, 60 miles north on our railroad, potatoes sold at 60 cents per peck when I sold here at just half that price, and in Decatur the price was almost the same. I ought to have shipped some just to get the experience, but as I was doing so well at home, and had so few to sell, I failed to do so. Judging from some tests I made I think the potatoes I sold at $1.20 a bushel June 27th to July 3rd paid best, as they were nearly mature at that time, and probably yielded more than they will now since they have begun to shrink and suffer from attacks of grubs. The ground is nearly all planted in sweet corn and doing nicely, some nearly a foot high. I shall plant the remainder in onion and turnip seed for fall crops and thus get a double crop on at least part of it. The sweet corn is in four or five plantings, so as to run all through late summer and early fall. I am enthusiastic for gardening and feel sure I can make very fair returns after allowing for the many great losses that always come to those in the business. I have sold nearly $10 worth of early cabbage and it is still going at two cents a pound faster than the heads mature. Sold all my onions at 3 cents per pound. Have a nice lot of limas on a trellis, but my tomatoes are rotting very badly.

Findlay, Ill.

[Our Illinois friend is doing very well, and evidently has good market facilities which are really the chief essential for success in market gardening. With the Early Ohio, I believe, better results are generally obtained by using seed more freely. Even here on the very richest of garden loam, and in this extremely favorable season, I have used large seed pieces (one-quarter of a large tuber, one-half of a medium tuber, or a whole tuber of less than medium size), and grown Ohios at the rate of from 400 to 600 bushels per acre. We dig a bushel of tubers from 20 hills or 25 feet of row. I cannot secure such results from one-eye planting, even under the most favorable conditions. The Ohio is still my favorite early potato, although I have grown it ever since its introduction in 1870 or '71, more than thirty years ago. Be sure to try a row or two of Prizetaker onion, of New Queen or Barletta, etc., for green bunching onions for next spring.—Ed.]

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A Good Proposition. — For one month from the date of this issue the Kalamazoo Carriage & Harness Mfg. Co., 174 Ransome Street, Kalamazoo, Mich., are offering a regular $80 buggy for $45, and extending the privilege to the purchaser of trying it for thirty days and then returning it if not satisfactory. They do not limit the number of buggies to be sold at this price, but the time limit is inexorable, the $45 price expiring in thirty days from this date. The Kalamazoo concern is the pioneer in selling buggies direct to the people on thirty days' free trial plan, and have made a wonderful success of this method because of its liberality and fairness and because of the high quality, low price and good value of their goods. They are the largest manufacturers of buggies and harness in the world who sell their output direct to the users and save the middlemen's profits. Their buggy book, with all the favorites and all the newest patterns and styles of vehicles will be sent on request if you mention the P. F. when sending for it.

Oil Cure for Cancer.

No need of the knife or burning plaster, no need of pain or disfigurement, the Combination Oil Cure for cancers is soothing and balmy, safe and sure. Write for free book to the Home Office, Dr. D. M. Bye Co., Drawer 505, Indianapolis, Ind.

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of plump, rich grain are obtained by the use of a fertilizer containing not less than 6% actual
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For Wheat, Rye, Barley, and all other grains, Potash is most essential.
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German Kali Works, 93 Nassau Street, New York.

SAN JOSE SCALE and other insects controlled with *Caustic Potash Whale-Oil Soap No. 3.* Send for circulars. James Good, 939 N. Front St., Phila., Pa.

NITRATE OF SODA FOR ALL FRUITS. Send your name on Post Card for our Free Bulletin. WILLIAM S. MYERS, Director, 12 John St., New York City.

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IT STANDS FOR BIG CROPS. For uniform drilling of grains, any kind and any amount per acre for grass seed sowing and even distribution of lumpy, damp or dry fertilizers, nothing equals the SPANGLER Low-Down Grain and Fertilizer Drill. Positive force feed for fertilizer, grain and grass seed. Drills any depth, perfect regulation, low steel or wood frame, high wheels with broad tires. Easy to fill and operate. Light draft. Investigate before buying. Write for free catalogue. SPANGLER MANFG. CO., 507 QUEEN STREET, YORK, PA.
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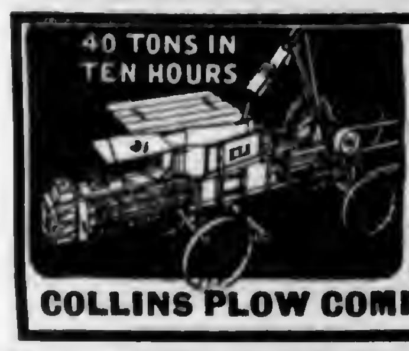
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CRIMSON CLOVER
NEW CROP. READY FOR DELIVERY.
Crimson clover is less an experiment than ever before, and each year it is more enthusiastically recommended. It bids fair to be one of the most important crops. It is an annual. It grows when other clovers are practically in a dormant state; in fact, in Delaware, it is called a winter clover. Its great root growth commends it as a nitrogen gatherer. As a manure maker it is of the highest efficiency; as a forage crop it is of great value. It may be fed green, or put in the silo or made into hay. Poultry folks use it successfully for fall or winter chicken pasturage. Its greatest use, however, trends toward winter mulching and green manuring. In this respect it appeals strongly to all progressive farmers as an economical fertilizer. Sow 15 pounds of seed per acre. It may be sown amongst growing corn after the last working or on clean stubble, in tomato fields, amongst grapes, tobacco, etc.
Packet, 10c.; pound, 30c.; 3 pounds, 75c., postpaid. By express or freight, purchaser paying charges, Peck, $1.00; bu., $3.75.
WM. HENRY MAULE, 1711 Filbert Street, Philadelphia, Pa.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Cultivating Orchard Trees.

One of the commonest questions put to me in the course of the year is how to treat fruit trees to have them do their best. The questions do not come from experienced orchardists; they have had revealed to them through practice what a tree wants. It is those who are just entering the business of fruit growing who ask advice. That the growing of trees successfully is thought to be far more difficult than it is, the questions asked prove. It is like in olden times when the whole art of gardening was deemed so mysterious that heavy fees were exacted from apprentices who desired to learn the business. Those who are about to engage in the growing of trees of any kind and are without any practical knowledge of it would find it most profitable to visit more than once during the summer season some nurseryman's establishment. More could be learned of how to treat trees in this way than any book could teach. The practical nurseryman bent on getting first-class trees in the shortest possible time, seeks first for a suitable place for the trees. If moisture loving trees, a low place is selected; if fruit trees or others of like nature, a place well drained naturally or artificially. Then the soil must be good. In the older states there are but few new positions rich enough in themselves. Manure is usually required. The nurseryman broadcasts this material before he plows, and in addition, often places manure in the hole the trees are to go in, covering a little soil over it before setting the tree. The trees are pruned if they require it—fruit trees are usually the better for a slight cutting in—set in the holes and soil rammed in firmly. In a short time, supposing the work done in spring, the cultivator is put in service, and every few weeks during the summer season the ground is cultivated. The constant stirring of the soil makes the trees grow much better than they would otherwise; in fact, in cultivation lies a great deal of the nurseryman's profit. This cultivation stops in September, when the growth is completed for the year, and weeds have about ceased to spring up in the soil. During the growing season pruners watch the trees. If a shoot is growing too long at the expense of bushiness its end is nipped off. Undesirable shoots are cut away altogether, the object being to so treat it that a handsome tree results. The winter affords further opportunity for pruning, cutting away shoots crowding others and shortening in those growing too long. The fruit grower who sets out or who has charge of trees, needs to follow in the steps of the nurseryman. Treat his trees just the same. Cultivate them all the time until they are in bearing, or until of an age they should be bearing. Let no crop rob them of food; keep the ground around them bare of vegetation. If in naturally good ground they may need no manure other than that already spoken of. When of bearing age, cultivation is not necessary if the trees grow thriftily without it; but either by the aid of manure or cultivation or both, a fair growth should always be looked for.

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Horticultural Queries.

Starting an Apple Orchard.—I want to get some information in regard to putting out apple orchard. I have about 10 acres of land that has once been cleared and is now grown up in brush again, that is good orchard land. I aim to reclear this land, and my idea is to plant about 4 apple seed 32 feet apart in hills and cultivate them as I work other crops in getting the land broke out. Now I want to graft those apple sprouts where they stand, and after sufficient development of the grafts take up all but one. From what I have read and thought in regard to the whole and piece root ideas of grafts, I don't see that there is much to argue about, as the point of difference seems to be in the taproot. It seems to me that it would be hard to take up a tree without breaking the ends of the roots, and if once broken I think they are damaged though they be ever so small. When is best to plant seed, in the fall or spring, and when and how to do the grafting? It would suit me best to plant seed in spring, if they will come up planted at that time.

Congo, Mo. A. D. CENCIBAUGH.

If you keep the apple seed in damp earth in a cool cellar all winter and sow them early in spring, they should be in good condition for growing. Grafting is done in spring, just as buds are beginning to sprout. You would find more satisfaction were you to set young trees than you will from your plan. Seeds may not grow, grafts may not take and other sources of disappointment arise. If you procure a nicely rooted young tree, never mind whether it is whole or piece root; you will never know the difference as the tree grows, and your orchard will be started satisfactorily.

Strawberries. — Please tell me what three kinds of strawberries are the best for early, medium and late. Some one of the P. F. readers may have these to sell and I would be pleased to hear from them or any-one having them to sell. J. C. WRIGHT.

Hillsdale, Pa.

Three good strawberries for succession are Michel's Early, Brandywine and Gandy. There are many other good sorts, some of which might suit your soil better than those named. It has been found that soil and situation have much to do with the well-doing of a kind. The nursery firms advertising in the P. F. would be glad to supply you with strawberry plants if written to. There are advertisers in all the late numbers. Write to them.

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Horticultural Notes.

The Hardy Hydrangea can be increased by layering its branches in summer, taking for the purpose the young shoots of the same season. Nice plants result the same season. This mode may be followed for the increasing of all kinds of shrubs.

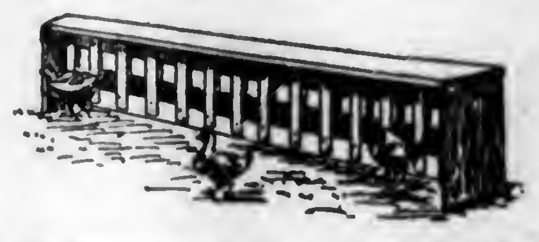
Spring Flowering Shrubs.—For a half dozen spring flowering shrubs plant Forsythea, Weigela, Japanese Snowball, Spiræa Van Houttei, Rosa Rugosa and Mock Orange. For later ones, Deutzia, Hardy Hydrangea, Althæa, Desmodium, Caryopteris and Cletha.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Poultry Feeding Trough.—The illustration shows the poultry trough which we have been using for a number of years with perfect satisfaction. In dry weather we usually strew wheat, corn or other whole grains into the road or walks where the fowls can easily find and pick up every kernel. When the ground is wet and muddy, even the dry grain is fed in these troughs; and the mash, or any softer food, or dry bran, shredded wheat, etc., is always served thus, and there is almost absolutely no waste. The length of troughs may be varied according to the number of fowls to be accommodated. We would suggest, however, not to make the troughs too long, but rather use more of them so that they can be easily shifted about and cleaned. In winter, the troughs are kept under a shed, or in the scratching or roosting room in very cold and stormy weather. The bottom board may be 8 or 9 inches wide, the side boards, both upper and lower, of 3 or 4-inch strips, and the slats for the spaces of common plastering laths. Make the spaces wider or narrower, to suit the size of the fowls to be fed. Three-inch space is about right for the average. The top board or cover may be hinged or fastened in such a way that it can easily be removed for putting the feed into the trough. We consider it a great convenience in our yard



Forced Moulting.—Henry VanDreser, of Schoharie Co., N. Y., is the originator, I believe, of the new method of forcing hens to moult early, thus getting them in shape to lay eggs again when eggs are usually scarce and high-priced, namely in October, November and December. Mr. VanDreser describes his wonderfully effective and satisfactory practice as follows: "About the first of August, the hens are shut up in the houses and kept confined for two weeks, during which time they are fed about a quarter the usual amount and the mash is omitted entirely. Of course the houses are given all the ventilation possible, as it is no part of my plan to cook the birds. At the end of two weeks they are let out and fed liberally on a large variety of grains, including wheat, buckwheat, shelled oats, peas, whole corn and sunflower seeds. They are also fed a mash once a day, which is richer in flesh-making material than we usually give them. On this diet they put on flesh rapidly and in a few days commence moulting, which progresses evenly and rapidly. In about six weeks the entire flock are in their new feathers. By the first of November it is possible to have them laying again and you can make them keep it up all winter. I do not mean to say that you can get as many eggs at that time of year from hens as from pullets, but, with a large flock like mine, I can get hundreds, where, by allowing them to moult in the usual way I would get almost none." This is one of the most important innovations in the poultry business brought out in many years.

◆

Poultry Raising in Virginia.

L. R. HITCHCOCK.

My attention has been called to questions appearing in the P. F. regarding poultry and trucking near Norfolk, Va. In justice to your readers I should like to give the impressions received while in the Norfolk section. I was somewhat familiar with that section, having visited there about 3 years ago when on a vacation, and spending about a month there at that time. I was so much impressed with the locality that I have ever since tried to keep in touch with it in a general way. I recently went there again with the idea of looking into the merits of the Norfolk section for poultry raising. Owing somewhat to your answers to my questions I went there without any decided prejudice in favor of that section. I came away with a decided prejudice in favor of it.

The excellent roads around Norfolk enabled me to use my bicycle many miles a day. I received the bulk of my information and impressions from the "people" and not from real estate men or promoters and hence I believe my impressions to be correct. My ideas as to prices before going were from N. Y. quotations. There is a strong, active, local demand for fresh eggs and high grade poultry at a profitable advance over N. Y. quotations that leads me to think that only the inferior eggs are shipped and hence the low N. .Y prices for "Southern eggs." While there may not be many large poultry plants near Norfolk as are found in other States, it is certainly not the fault of the section. From the fact that all through this section will be found breeders of high grade fowls, shows that there is an increasing interest in this profitable branch of farming. Farmers are finding that this is a profitable line and instead of having it as an unimportant line are making a business of their poultry. I believe the time will come when this section will be one of the most important poultry sections of the U. S. At the time when his Northern neighbors are spending time, energy and money to keep his early broilers from freezing, the Norfolk farmer is enjoying the advantages of his climatic location. The climate of Norfolk will enable a man to raise chickens and eggs with less trouble and expense than can be done in the North. They will consume less feed. They can have green food the year 'round. The chickens and eggs thus raised can be put into the N. Y. markets as cheaply as if they were produced within 25 miles of that city. I could not find there was any especial obstacle in the way of raising poultry which was peculiar to that section. Many of the most progressive raisers think the outlook for duck raising to be especially good. By the Norfolk section I mean not only the country immediately surrounding the city of Norfolk, but all of the section tributary to it by the splendid transportation facilities which seem peculiar to that section.

Watertown, Conn.

◆

Pointed Poultry Paragraphs.

Now Feed for Eggs!—Wheat and oats are not easily excelled as foods for layers that have free range. Fowls at large will pick up what is needed to balance their ration. If confined in yards, they should also have plenty of animal food, beef scraps, cut fresh bone, animal meal, etc., and a continuous supply of grit.

During the Moulting Season we always give our hens extra messes of animal meal or other highly nitrogenous foods. Many poultry keepers use and recommend oil meal added to the daily mash. This will do when animal foods are not on hand, but we prefer the green bone or animal meal. In some years, however, grasshoppers have been so plentiful in our orchards and poultry runs, that additional rations were hardly considered necessary.

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PROF. W. F. MASSEY, Editor.

Philadelphia, August 8, 1903

ERRATUM.—On page 51, July 25, for "December" in third line from the bottom of the first column read "September." It is evident to the most casual reader that we did not mean to say that we sowed seed in December to set plants in November.

◆

Weeds.

If the fence rows are allowed during the summer to grow up in all manner of foul weeds the farm land will never be cleared of them. The seeds will be carried by the birds everywhere, and an annual cleaning will not suffice. Mowing off the head rows before weeds make seeds tends to the cleaning of the fields as well, and nothing gives a more attractive appearance than clean fence and head rows. It always pays to farm neatly.

◆

Effects of Climate on Legumes.

Prof. C. D. Smith, of the Michigan Agricultural College and Station, writes to the Rural New Yorker that there the soy beans are beating the cow peas in growth ten to one. Down in the level coast lands of Eastern North Carolina some of the growers are finding that the velvet bean is getting acclimated and they prefer it to the cow pea, as they say it makes a heavier crop and is also easier to cure into hay. Perhaps the cow peas that Prof. Smith is growing came from too far South and have not yet gotten acclimated. It is a very important thing to get seed of tender things that have been grown as far North as possible for planting in the North. It may yet be found as we have more than once suggested that for the conditions in the Northern and North Middle States the soy bean may be found the best of all protein crops for the farmer to use in the balancing of his rations. At any rate, it behooves the farmer in every section to experiment for himself. It will certainly be a great advance if the velvet bean can be made a success in the warmer parts of North Carolina, and this being a step further north, they may eventually be induced to mature seed still further north. With its magnificent growth the velvet bean is well worth experimenting with in the warmer parts of the South, and when once the seed can be ripened in any locality its success there is assured.

◆

Hay from the Orchard.

We were somewhat surprised that so close an observer and careful farmer as the editor of the Rural New Yorker boasts of the big crop of hay he got from his apple orchard, and proposes to get a second crop. Friend Collingwood says that he cannot afford to leave that much feed in the orchard when he can buy the plant food for the trees for one-fourth of the money. We fear that he will find that it is not merely plant food that the trees need, but moisture to make it available. The maturing of a big crop of hay takes away from the soil moisture as rapidly as anything can, and in the droughts that are apt to afflict us the growth of the trees will be seriously affected though the soil be full of plant food. The grass is all right, if it is frequently mown and let remain as a mulch to keep the soil moist and to accummulate humus to still further increase the moisture-retaining character. In the moist soil of the mountain coves in Virginia where springs break out on the hillsides above, the Pippin apple flourishes, while a mile away in the red clay of the valley below it refuses to thrive. Moisture in the soil along with good drainage is of more importance to the apple than the plant food in a soil baked with drought and dried out by a hay crop.

◆

Virginia Advancing.

Under the wise direction of the present Commissioner of Agriculture there has been a marked improvement in the work the State Department of Agriculture is doing for the farmers of the State. The last Annual Report of the Commissioner is a well illustrated volume of nearly 200 pages replete with information for the farmer on almost every topic in which he is interested, and showing well what the farmers of Virginia are doing in the breeding of live stock, the improvement of the productiveness of their soil and in the growing of apples and other fruits for export to foreign countries. One of the most striking illustrations in the volume is a picture of part of a Virginia corn field down on the borders of the great Dismal Swamp, and on land reclaimed from the swamp. The field is 1,000 acres, and the crop was 60,000 bushels. The grain brought the farmer who cultivates this great farm 7 cents a bushel more than Western corn sold for on the same market. On these lands a good crop of corn is grown after a crop of early potatoes has been harvested anil shipped from the same land. The Report shows that the State is advancing along all the lines in agriculture. The P. F. has a large list of subscribers in Virginia and they are to be congratulated in having a Commissioner and Board of Agriculture who are doing real work for the good of the farmer. There is but one other State in the country which sends out such reports for its farmers, and that is Kansas.

◆

Soy Beans For Grain.

We would like to call especial attention to what Prof. Soule has so well said in regard to the soy bean in our issue for July 25th. Look at the analysis of the meal from soy beans. It will be seen that it ranks next to cotton seed meal in protein and surpasses the cotton seed meal in carbohydrates and fat. It would seem that it ought to pay to grow the soy for the grain where a high protein food is needed for the balancing of the ration with Indian corn. But it shows too that with these leguminous crops used as forage the dairyman can produce his own protein while improving his soil through the growth of the legumes, and should be under no necessity for buying bran or other protein feed. For stock feeding the soy beans are rapidly coming to the front, while we still prefer the cow pea for soil improvement. In this connection we would also suggest the Mammoth Yellow soy may be found too late for our Northern friends, and the Medium Early would be better there. While we do not think that the soys will ever supersede the cow pea in the South, it may be probable that in the Middle and Northern States they may be found even more valuable than the cow pea. But North or South, the legume farmer is to be the farmer of the future, and it behooves farmers in all sections to study which are the best for his use. If red clover does well with you, stick to the clover as a standby, and be ready to take advantage of other legumes when clover happens to fail or when a drought makes it necessary to supplement the hay crop of the season. One advantage of the soys is that when grown in rows they are easily harvested with the corn binder and set up to cure in shocks with little trouble.

◆

N. C. Farmers' Convention.

Following in the lead that Tennessee has made North Carolina inaugurated this summer an annual Farmers' Convention, which was attended by hundreds of the best farmers of the State. After the preliminary addresses, the first address to the farmers was made by the editor of the P. F. on the "Cow Pea for the Farm, Orchard and Garden." In introducing the speaker, the President of the College of Agriculture, in the large auditorium in which the convention assembled, said that there were some of our farmers who seemed to imagine that Prof. Massey had invented the cow pea, since he has done so much for the encouragement of its cultivation, and that wherever he went the farmers wanted to hear from him about the pea. Two of the most successful farmers of Piedmont N. C., Mr. Scott, of Alamance Co., and Mr. Brawley, of Iredell Co., told in a very entertaining manner how they had taken run down farms and made them profitable and brought them up to a highly productive condition while making them pay for the improvement. Mr. Dunn, of New Berne, spoke of the intensive horticulture now being practiced by the market gardeners of the eastern part of the State. He said that while the average crop of early Irish potatoes was about 40 barrels per acre, good growers made 80 to 120 barrels, and a crop of 140 barrels had been produced. When it is considered that on these lands a crop of pea vine hay and another crop of late potatoes can be grown in the same season it will appear that even Ohio cannot get ahead of the N. C. growers. Then the development of winter gardening has been very extensive, and large plants have been established with frames covered with cloth and heated by steam pipes, and supplied with sprinkling pipes through which a steam pump drives the water for irrigating the beds, and results of thousands of dollars per acre produced. While lettuce and other half hardy crops are the main ones grown in winter it is now proposed to grow celery in these frames for the late spring market when the price always rules high. The Coast country of Eastern North Carolina is rapidly becoming a great garden, where the finest of strawberries and vegetables grow, and where great fields are planted in gladioli, tuberoses, dahlias, cannas and other crops for the florists of the North. Gradually glass will supersede the cloth substitute for glass, and in the near future Eastern North Carolina, with her fertile soil and mild climate will take rank with the most advanced horticultural sections, and great propagating establishments will be supplying a greater variety of plants to the Northern trade in addition to the bulbs now so largely grown. Then, too, in cotton farming the same section is coming to the front. Mr. Dautridge, of Edgecombe county, gave the Convention an account of his farming with cotton as the money crop. He said that on his farm he made beef, milk, butter, vegetables and poultry enough to pay all the expenses of his farm, so that his cotton crop of 200 to 225 bales was his profit. At present prices of about $65 a bale it will be seen that this is no poor farming. The good that such a convention will do in awakening an interest in the improvement in farming is incalculable, especially as the speakers all advised the young men to get an education in agriculture as the best possible road to success. Book farming is "getting there" in the South, as it will everywhere where men study their profession.

◆

The Cream of the Bulletins.

Ohio Agricultural Experiment Station, Wooster, O. Bulletin No. 140. The Corn Crop. Selection of Seed. Description of Varieties. Hill Planting vs. Drilling. Cultivation, Variety Test. By C. G. Williams.

The bulletin starts out with the statement that the area in corn in Ohio is over 3,200,000 acres, 1,000,000 acres having been added to the crop since the seventies. Hence Ohio is vitally interested in the corn crop, especially as it seems that the yield per acre is gradually decreasing. The ten-year period of 1890-99 shows a falling off of 3.34 bushels per acre as compared with the previous decade. It is believed that this has been due to the decrease in the live stock industry, and the selling of corn instead of feeding it on the farm. "The problem of fertility maintenance is a great one, and lies at the foundation of the corn crop." We would rather put it that the corn crop and its proper use on the farm lie at the very foundation of the maintenance of the fertility of the soil. The lesson from Illinois is "that the yield from unmanured land continuously in corn is slowly but surely decreasing." And this is true of single cropping the world over, no matter how fertile the soil. The need, then, our author says, is for rotation and the husbanding of fertility. A chapter is devoted to the selection of seed. Maturity, it is stated, is of the first importance, and no corn showing less than 95 per cent. of vitality should be used. Uniformity, too, is of great importance. That is the size, shape and color of the ear, the arrangement, number and space between the rows, the indentation of the kernel; the filling out at butt and tip; the color and size of the cob. Cuts are given of variously shaped ears and of variously shaped grains, since the shape of the kernel has much to do with the amount of corn carried on the cob. We are of the opinion that in the efforts being made in the breeding of corn too much stress is being given to the ear itself. Of course the perfect ear is desirable, but a theoretically perfect ear may be borne on a plant having undesirable characters. In our opinion, after getting as good representative ears of the variety we propose to grow the future selection should aim towards the development of the kind of plant we want, and to establish a heredity that will give us a uniformity in the field, from which we can further select for the desired uniformity in the ear. Breeding for the ear alone will never increase the productiveness of the crop if the breeding is not carried to the field and the whole plant studied. The bulletin is correct in saying that repeated experiments show that neither the yield nor quality of the grain is materially affected by growing the crops from the butt, middle or tip grains. A sound and vital grain is all that is needed Uniformity in the machine planting may make it desirable to use only the middle grains. The practice of selection in the field and the cutting out of barren stalks is mentioned, but the opinion is expressed that the average farmer will not take the trouble to so select, and would rather buy from a seedsman, no matter where or under what conditions the seed was grown. A chapter is devoted to selection for higher protein content, a matter which we think of small importance with corn, which is the great carbonaceous food, and of special value as such. Several pages are given to descriptions of varieties, which are interesting where the variety has been developed in similar climate and conditions to the locality where it is proposed to plant it, for corn needs to be grown and developed in such conditions or must be gradually acclimated to others. Experiments made with hill and drill culture showed that corn planted in drills 12 inches apart will give the largest yield and most marketable corn, and that shallow cultivation in any season has always given the best results both in grain and stover, and the kind of cultivation has no effect on the number of barren stalks in the field. Varieties differ as to suitableness for different parts of the State. The warm black soil of Northwestern Ohio will mature a corn that will fail in the northeastern part, but the bulletin divides the State north and south and states that south of the 40th parallel Leaming and Reid's Yellow Dent are suggested. Between the 40th and 41st parallels Leaming and Clarage. North of the 41st, Clarage and White Cap Yellow Dent, with possibly Early Huron Dent, though White Cap Yellow Dent will usually surpass it.

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CONTENTS

AGRICULTURAL. — How Long Shall Manure Stay in the Stable.—Managing Clover so as to Increase Fertility.—Health Hints.—How Many Meals on Sunday?—Ice Cream and Candy. 81
Another View of the Question.—City vs. Farm. 82
QUERIES.—Pasture and Peaches in Pa.—Rotation for Stock Farm.—Alfalfa in N. C. Mountains. 82
Crimson Clover.—Grasses for N. C.—Permanent Pasture. — Fertilizers in Missouri. 83
LIVE STOCK AND DAIRY.—Building a Silo. 84
VETERINARY. — Impaction. — Cough. —Indigestion. — Cellulitis. — Failure to Breed.—Contracted Tendons. —Sick Mule.—White Clover Salivation. 85
GARDEN. — Talks on Timely Topics.— Growing Celery Plants and Celery.— New Ways of Blanching Celery.— Early Potatoes for Money. 86
HORTICULTURAL. — Cultivating Orchard Trees.—Horticultural Queries. —Starting an Apple Orchard.— Strawberries.—Horticultural Notes. 87
POULTRY. — Seasonable Suggestions.— Poultry Feeding Trough.—Forced Moulting.—Poultry Raising in Virginia.—Pointed Poultry Paragraphs. 87
EDITORIAL.—Weeds. — Effects of Climate on Legumes.—Hay from the Orchard.—Virginia Advancing.—Soy Beans for Grain.—N. C. Farmers' Convention. 88
CREAM OF THE BULLETINS. 88
COMMERCIAL. 89
HOME CIRCLE. — Going Back to the Homestead.—Editorial Chat.—All in a Lifetime, Part 5. — Small Fruit Growing. 90
Among the Flowers.—Turkey Raising.—In the Kitchen.—Correspondence. 91
OUR EXPERIENCE POOL.—Topic No. 584.—How Have You Succeeded Best in Exterminating Prairie Dogs? 92
SHORT CUTS BY P. F. SUBS.—Handy Lifting Rigging.—Chicken Coop.— Light Draft Roller. — Copying.— Handy Nail Box.—To Banish Lice. —Handy Scoop for Oat Bin, etc.— To Keep Boots and Shoes from Shrinking When Wet.—Cut Worms. —Driving Posts in Dry Weather.— Home-Made Hardles. — Use for Cheese Boxes. — A Short Cut in Cookie Making.—Utilizing Pieces of Bread and Biscuit.—A Good Rat Poison. 93
MISTAKES, FAILURES AND SUCCESSES.—Peas with Corn.—Growing Good Apples.—To Can Tomatoes. —Set Plants too Near the Fire.— Mistake in Hiring Help.—Getting Rid of Potato Bugs. — Feeding Chicks. — Cured Clover Bloat.—Removing Gloss from Clothes.—Canning Sweet Corn.—Experiments with Catch Crops.—Gapes.—Preventive of Gapes. 94
POSTAL CARD CORRESPONDENCE. 96

"Because the P. F. has helped me wonderfully in the past (having read it for about 14 years), I hope it may help some of the men whose names you will find on another paper. Wishing success to the P. F. evermore, I remain, Your sincere friend, John S. Hodel, Cissna Park, Ill."

"Your paper deserves a welcome in the home of every American farmer."—Geo. T. Hutchins, Oakville, Md.

"I want to thank you greatly for sending me this paper last year: for I feel this is all the help I have had. Four years ago I began on this old, worn-out farm, and today it is paid for. I have five good horses, thirteen head of good cows, two yearling hogs, plows, mowing machines, hay rakes, one McCormick binder, two wagons, one cost me $70, and many more things I cannot mention. You have my many thanks for all this, for this paper has been my only guide. These things are all paid for to this date. I cannot speak praise enough for your paper."—W. H. Turner, Belington, W. Va.

COMMERCIAL

Cotton Report—July 30th, 1903.

Correspondents' returns up to and including July 25th, make the average condition 80 per cent. as against 78 per cent. July 15th, 73.8 June 29th and 84.7 per cent. July 29th, 1902. This improvement of 6.2 per cent. within the past month is due to warm weather and cultivation. While crop accounts are considerably better than one month ago, still it must not be thought that conditions are more favorable than one year ago, or that the crop has "caught up" in size and growth, because it has not. It takes more than a brief spell of good growing weather to overcome the damage that can be done by an extremely late, cold, wet spring. That the plant over the entire belt is from ten days to three weeks late is conceded by all.

The weather, in the main, during the past two weeks has been favorable to growth and cultivation. The plant, with few exceptions, is not fruiting well. This is due to its diminutive size. At this time last year drought and shedding were complained of and the plant was fruiting well. In

NORTH CAROLINA: Just commencing to fruit; nights too cool in some sections of the southwestern part of the State.

SOUTH CAROLINA: Improved by hot, dry weather which promoted growth; plant is small and fruiting slowly.

GEORGIA: Weather and temperature favorable for growth and cultivation; some fields still grassy. In many instances the plant is not sufficiently developed to take on fruit; some complaint of "black root."

ALABAMA: Condition improved but plant still small, just beginning to fruit; blooming rapidly; rain needed in sections of the northeastern and central portions of the State.

MISSISSIPPI: Improved by warm weather and cultivation but not as forward in fruit as it should be. There are still many sections to be cultivated. Rain is needed in the central and western portions of the State. There is some complaint of forms being too far apart on limbs.

LOUISIANA: Plant looks healthy, but is growing too rapidly to fruit well, and is grassy in places.

TEXAS: Warm, dry weather has given opportunity for cultivation and the plant has greatly improved, though at present it is not fruiting well in most sections. Inquiry as to the boll weevil shows that in some counties they are increasing, while in others they are decreasing. However, very little damage by them is complained of to date.

ARKANSAS: Good weather and cultivation caused improvement. The plant is late but growing nicely and fruiting fairly well.

TENNESSEE: Some complaint of cool nights; the plant is fruiting well but is late.

THE TERRITORIES: Improved by hot, dry weather and cultivation; just beginning to fruit and bloom.

The following statement affords a comparison of the conditions, in per cent., of cotton on the dates specified:

States	July 29, 03	July 15, '03	June 29, '03	July 29, '02	July 29, '01
Virginia	82	82	75	95	70
N. Carolina	86	86	80	95	68
S. Carolina	81	78	73	86	72
Georgia	80	79	72	80	70
Florida	88	88	85	82	80
Alabama	81	78	74	77	75
Mississippi	81	81	73	84	79
Louisiana	76	75	73	86	76
Texas	81	78	75	90	70
Arkansas	81	79	70	91	69
Tennessee	78	75	70	93	70
Territories	82	80	76	97	80
Av. for U. S.	80	78	73.8	84.7	73

◆

Philadelphia, Aug. 1, 1903.

WHEAT.—

No. 2, red, spot, July & Aug.	79¾	@	80
No. 2, Penna. and Del.	80¾	@	81
No. 3, red	73¾	@	75

CORN.—

No. 2	56½	@	57
No. 2, yellow, track	59½	@	60
No. 3	52½	@	53

OATS.—

No. 2, white clipped	41		
No grade white	39	@	40

LIVE POULTRY.—

There was a good demand for fowls, receipts of which were promptly cleaned up at firm prices. Chickens were in fair request, but supplies were liberal and prices were slightly easier. Ducks were steady under moderate receipts and a fair demand.

Fowls, hens, per lb.	15		
Roosters, per lb.	10		
Spring chickens, per lb.	15	@	17
Spring ducks, per lb.	12	@	13
Old ducks, per lb.	11	@	12

DRESSED POULTRY.—

Fresh killed fowls, choice	14½		
do do do average	13	@	14
do do old roosters	10		
do do broilers, nearby	20	@	22
do do do Western	19	@	20
do do do average	14	@	18

BUTTER.—

Receipts, 3,062 tubs and 784 boxes. The market for fine creamery developed a better tone. Buyers were operating with more confidence at the recent decline, and supplies of extras as well as of desirable firsts were well cleaned up on a basis of quotations. The lower grades of creamery were hard to move, while imitation creameries and ladle packed were also dull and weak under general pressure to sell. Receipts of fancy prints were kept pretty well sold up at steady prices, but there was a surplus of the undergrades, which were dull and had to be sold at best rates obtainable.

West. creamery, 1st to extra	18	@	19½
Ladle packed	13	@	15
Prints, nearby, 1st to extras	20	@	22
Prints, West. do do	19	@	21

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby fresh, ret'bl crates, L	18½		
Western, choice, free case, L	18½		
So. Western do do L.	16	@	17
So. choice do do L.	15½	@	16

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c. small—			
New, choice	10¼	@	10½
Fair to good	9½	@	10
State, part skims, prime	6	@	8

GREEN FRUITS.—

Blackberries, per qt.	5	@	9
Peaches, Ga., carrier	2.50	@	2.75
Del. &. Md. Mt Rose, bas.	1.00	@	1.50
do do Troths, per bas.	1.00	@	1.25
Grapes—			
N. C. & Del., 8-lb. bas. car.	2.00	@	2.75
Plums, Del., 8-lb. bas. car.	1.00	@	1.25
do do 10-lb. bas.	22	@	25
Watermelons, So., car	100.00	@	175.00
Canteloupes—			
Ga. & N C., per crate	75	@	1.50
Md., 1-3-bbl bas.	1.50	@	1.75
Pineapples, Fla., crate	2.50	@	3.50
Whortleberries, per qt.	5	@	8

APPLES AND PEARS.—

Apples—			
Del. & Md., ½-bbl. bas.	75	@	1.00
do do per bbl.	1.50	@	2.00
Pears, LeConte, Ga., per bbl.	2.75	@	3.25

POTATOES.—

Jersey, per bas	35	@	40
Sweets, So., pr., yellow, bbl.	2.00	@	2.50
do do red do	2.25	@	2.75

BEANS AND PEAS.—

Beans, marrows, H. P., bu.	2.60	@	2.65
Pea beans, H. P., 1902, bu.	2.35		
Red kidney, 1902, bu.	2.90	@	3.00
Green peas, per bu.	1.60		
Scotch peas, per bu.	1.65		

COTTON.—

Cotton, per cwt.	13.25		

FEED.—

Bran, bulk, winter, per ton	17.50	@	18.00
Bran, sacked, spring	17.00	@	18.00

HAY AND STRAW.—

Timothy, N. Pa., No. 1, l'g.	20.00	@	20.50
do Western	19.50	@	20.00
Timothy, mixed Western	13.00	@	17.00
Oat	9.00	@	10.00
Straw, straight rye	18.50	@	20.00
Wheat	10.00	@	11.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.

Extra steers	5¼	@	5½
Good steers	5	@	5¼
Medium steers	4¾	@	4⅞
Common steers	4¼	@	4½

CALVES.—

Veal calves about steady.

Extra calves	7¼	@	7¾
Fair to good	6	@	7
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs lower.

Fat hogs, Pa., Del.	6½	@	7½
Fat hogs, Western	8	@	8¼

SHEEP.—

Sheep steady; lambs easier.

Sheep, extra	4¾	@	5
Sheep, good	4	@	4½
Sheep, medium	3¼	@	3¾
Sheep, common	2	@	2½
Lambs, spring	4¾	@	6¾

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New York, Aug. 1, 1903.

WHEAT.—

No. 2, red	84¼		
No. 1, No. Duluth	94⅝		

CORN.—

No. 2	58½		
No. 2, f. o. b.	59		
No. 2, white, f. o. b.	59		
No. 2, yellow, f. o. b.	59		

OATS.—

Standard, white	41		
No. 2, white	41½		
No. 2, white clipped	42		
No. 2, mixed	40		
No. 2, clipped	40¼		
No. 3, mixed	39½		
No. 3, white clipped	41¼		
No. 3, white	40½		

HAY AND STRAW.—

Timothy, large bales, cwt.	1.15		
No. 1	1.05	@	1.10
No. 2	90	@	95
Clover, per cwt.	70	@	72½
Straw, long rye, per cwt.	80	@	90

BUTTER.—

Creamery—			
Firsts to extras	17½	@	19
State dairy, fresh, tubs—			
Firsts to extras	16½	@	17½
West. Imitation Creamery—			
Finest	16	@	17
Packing stock—			
No. 1 solid packed	14		
No. 2 and 3 solid packed	12	@	13½

CHEESE.—

State, f. c., small, extra	10¼		
Fair to prime	8½	@	10
Large colored, extra	9⅞		
Large white, choice	9¾		
State, light skims—			
Choice	8	@	8¼
Part skims, prime	6	@	6½
Full skims	1½	@	2

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—			
Fancy selected white	21	@	22
Mixed lots	20		
Fresh gathered, extras	20		
Fresh gath'd, 2nds to 1sts	15	@	18
Western—			
Fresh gath., 1st to extras	17	@	19
Dirties, fresh gath., No. 2	9	@	11

LIVE POULTRY.—

Spring chickens, nearby, lb.	15		
Western, per lb.	15		
Southern, per lb.	14		
Fowls, per lb.	15		
Roosters, per lb.	9		
Turkeys, per lb.	11		
Ducks, average, per pair	60	@	80
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	25		
Live pigeons, young, pair	20		

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys—			
Average best, per lb.	13	@	15
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	22	@	25
State & Penna., 3 to 4 lbs. to pair, per lb.	18	@	22
Western, d. p., per lb.	17		
do scalded	16		
Southern, scalded, sm., lb.	13	@	14
Fowls, West., scald., sm., fcy	13½		
Dry picked, small, fancy	14		
Southern & So. West., d.p.	13½	@	14
do scalded, per lb.	13	@	13½
Spring ducks—			
Long Island, per lb.	17½		
Eastern, per lb.	17½		
Jersey, Pa. & Va., per lb.	16	@	17
Western, per lb.	10	@	13
Squabs—			
Prime, large, white, doz.	2.50	@	2.75
Mixed, per doz.	2.25		
Dark, per doz.	1.50		
Spring geese, Eastern, lb.	18		

APPLES AND PEARS.—

Apples—			
Astrachan, per bbl.	1.75	@	2.25
Sour green, per bbl.	2.00	@	2.75
Small, per basket	30	@	60
Openhead barrels	1.00	@	1.50
Pears—			
LeConte, fancy, per bbl.	3.00	@	3.50
Choice, per bbl.	1.50	@	2.50
Nearby, common, bbl.	1.25	@	1.75
Kieffer, per bbl.	2.00	@	2.25

GREEN FRUITS.—

Pineapples—			
Indian Riv., 24s, Red Span	3.00	@	3.50
Indian River, 30s	3.00	@	3.25
Indian River, 36s	2.75		
Abakkas	1.75	@	2.25
Grapes—			
N. C., carrier, Delaware	2.00	@	2.50
N. C., carrier, Niagara	1.75	@	2.00
Muskmelons—			
N. C., crt., large, selected	2.00	@	2.75
Choice, crate	75	@	1.50
Baltimore, crate	2.50	@	3.25
Baltimore, basket	1.25	@	2.00
Texas, crate	2.25	@	2.75
Watermelons, per 100	10.00	@	25.00
R. R. Shipment, per car	100.00	@	180.00
Steamer, ship., per car	90.00	@	160.00
Peaches—			
Md. and Del., per bas.	75	@	1.25
Jersey, basket	50	@	65
Georgia, average, carrier	1.75	@	2.00
Fancy carrier	2.00	@	2.50
Blackberries, Wilson, per qt.	6	@	10
Huckleberries, l'g blue, qt.	9	@	11
Small, per qt.	6	@	8
Plums, Burbank, per carrier	75	@	1.25
8-lb. basket	25	@	40
Common, per qt.	4	@	5
Raspberries, Jersey, per pint	4	@	7
Up-river, per pint	6	@	12
Currants, Cherry, per qt.	10	@	12
Small, per qt.	8	@	9
Grape fruit, Cal., box	1.75	@	2.25

VEGETABLES.—

Cabbage, Baltimore, per bbl.	75	@	1.00
L. I., Wakefield, per 100	5.00	@	6.00
Flat Dutch, per 100	5.50	@	6.50
Cucumbers—			
Baltimore, per basket	40	@	60
Jersey, bu. box	75	@	1.10
Norfolk, per bbl.	1.50	@	1.75
Cauliflower, per bbl.	1.50	@	2.25
Celery, fancy, per doz.	40	@	50
Good to choice, per doz.	15	@	35
Eggplants, Norfolk, bbl-crate	2.50	@	3.50
Jersey, per box	1.25	@	1.50
Green corn, per 100	75	@	1.25
Lettuce, nearby, per bbl.	1.75	@	2.00
Boston, per dozen	30	@	50
Western New York, case	2.50	@	3.00
Lima beans, ½-bbl. basket	3.00	@	3.50
Peas—			
Western N. Y., basket	1.25	@	1.50
Western N. Y., bag	75	@	1.12
L. I. and N. J., bag	65	@	1.00
Peppers, Jersey, box	75	@	1.25
Southern, carrier	50	@	1.00
String Beans—			
Long Island, per bag	75	@	1.15
Southern, per bas.	75	@	90
Western N. Y., bu. bas.	1.25	@	1.50
Boston, bu. box	1.15	@	1.25
Squash, So., white, bbl. crate	50	@	1.00
Marrow, bbl. crate	1.00	@	1.25
Yel. crook neck., bbl. crate	75	@	1.00
Russia turnips, bbl.	1.00	@	1.50
Onions—			
Yellow, basket	75	@	90
White, basket	1.00	@	1.25
Kentucky, bbl.	2.00	@	2.12
Bags	1.00	@	1.15
Tomatoes—			
Jersey, per box	75	@	90
Acme, per box	1.50	@	1.60
Common, per box	50	@	65
Southern, carrier	40	@	60

POTATOES.—

Long Island, prime, per bbl.	2.00	@	2.25
Jersey, prime, per bbl.	2.00	@	2.25
Per bag	2.00		
Southern, No. 1, per bbl.	2.00		
Poor to fair, per bbl.	1.75	@	1.87
Sweets, So., red, per bbl.	2.00	@	3.00
Yams, So., white, bbl.	2.00	@	3.00

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@33
X	28@30
Medium	30@22
Quarter blood	28@30
Common	20@28

UNWASHED (light and bright.)

Fine	20@23
Medium	23@24
Quarter blood	23@24
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@18
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaines	33@35
Washed medium	32@33
Washed low	30@22
Washed coarse	28@30
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	21@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Going Back to the Homestead.

JULIAN COOKE.

I've been back to the old homestead today, love,
Where we started forty long years ago,
Ere your hair had grown whitened with age, love,
And my steps had grown feeble and slow.

The place seemed deserted and cold, love,
And weeds had choked out your fair flowers;
But about the old house and the garden,
I spent some long, thoughtful hours.

Oh, let us go back to the home, love,
Where I brought you a bride years ago;
There we will live in the shade of the maples,
The few days we're spared here below.

There's the red clover field, where as children
We searched for the meadow lark's nest;
Where they builded a city of white stone,
And our babe was the first laid to rest.

When we left, the green graves were but scattered,
But many to rest are now laid;
And among the green graves of that city
We two may find room by our babe.

Then back to the old home we'll go, love,
The home we left long ago;
There we'll die 'neath the shade of the maples
And lie 'mid the graves that we know.

For we have grown feeble and old, love,
Our hair now is turned very gray.
But to me you're more dear than you were, love,
On our long-passed wedding day.

We'll go back to the old, old home, love,
That we've loved all these long, long years,
There we'll live 'mid the scenes of our childhood
Till the signal from Heaven appears.

Farina, Ill.

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Editorial Chat.

We understand that the boys and girls of the H. C. are sending for sample copies to canvass for those 50-name trial clubs mentioned in this department last week. Every boy or girl who sends a club of 50 trial subscriptions to the P. F. and $5 to pay for same, will receive the Youth's Companion for a whole year. Fifty free sample copies of the P. F. will be sent to every boy or girl who sends their name to The Practical Farmer, Philadelphia, and say they will try to raise a club. As we said last week, we should like to see one club sent by each family in which the P. F. is a weekly visitor.

◆

All in a Lifetime.—Part 5.

VELMA CALDWELL MELVILLE.

Not until that moment had the green-eyed monster fully taken possession of Dr. Glen. She loved him—"this awkward rustic"—more than he with all his culture and prospects—yes, and all his love for her. What did Jeff Greely know of those finer, deeper feelings that dominated him? Slowly his anger kindled. Unlike most men of Southern birth, he was "slow to anger;" but when roused the Scotch away back in his ancestry, had the ascendency and he said little but hated much.

"She must be got out of his way," he resolved; "these chance meetings must cease," and he fell to pondering over the incident of the thunder storm.

Nor were matters helped much when the girl awoke. Evidently her dreams had impressed her to the extent that she could not throw them off, and when the doctor rather ordered than invited her to ride with him she complained of weariness and declined to go. Then he had a talk down by the gate with Aunt Ruth and drove away. When the latter came in she found Patty Pearl in tears, but could get no satisfaction to her queries.

Finally she said: "You are sick and nervous and need change. Why don't you—"

But her niece interrupted with more temper than was her wont to show:

"I am not nervous, but I'm not going to go at his every beck and call. He did not ask me to go riding, he commanded."

"Nonsense, child!" And then Aunt Ruth went over again, and at much length, the story of the doctor's devotion through all her illness. The girl listened patiently but unresponsively, and when she was done, said she was going to bed.

She did not, however, for a few minutes later Mrs. Waddle and her daughters stopped in "just for a minute," on their way home from town where they had spent the day with relatives. Instantly Patty Pearl became nearer her old self than Aunt Ruth had before seen her, and when Mrs. Waddle hinted that Katie Carson had a new ring on her forefinger (the fashionable engagement finger in Westover neighborhood) she became positively gay. That night, in her room, Patty Pearl took out a tiny box and opened it. A beautiful ring nestled in the purple velvet. Slowly she examined it and then slipped it onto her finger. She had never worn it; just why she could not have told. It was far handsomer than the one she had worn of Jeff's, but Katie had that now, and then her pale cheeks tingled as she remembered her confession in the thunder storm. He was only leading her on while he meant to marry Katie all the time. She cried awhile, but when she retired she had formed some new resolves. When Dr. Glen came again he was pleasantly surprised at her smiles and cordiality, but best of all she wore his ring.

When he asked her to ride, she arranged herself most becomingly and expressed a longing to be out of doors. She wanted to do a little shopping, she said, so they drove toward the village. Half way there he said suddenly:

"Pearl, let us steal a march on everybody and get married this afternoon."

She caught her breath, but he went on:

"It will save a lot of bother and we need not mention it to anyone but your Aunt until we are ready to go South. It will be a joke on all the country and village gossips who are meddling so much."

He felt her tremble and knew that her breath was coming hard, but he went on as if she had consented:

"You know they say you are holding off in the hope of getting Jeff Greely back again, while he—"

"Who says that?" cried Patty Pearl vehemently.

"O, the gossips, of course. Probably it originates among his relatives. You know I am not jealous, so I pay no heed, but I confess I would like to let them talk on and then have it come out by and by that we had been married some time."

"Whoever says it is more than a gossip," the girl said chokingly, keeping her flaming face averted from her lover.

"Well, you can prove them almost anything if you consent to my plan," and she consented.

They drove to the hotel and Patty Pearl staid there while the doctor sought the minister, who was also a young man and an old college friend. Then the minister's wife was pressed into the service. She called for Patty Pearl and the two went out and did some shopping and then went around to the parsonage, where the two men awaited them. A friend from a distance was guest in the house, and so they had it all within themselves, as the jolly young preacher put it. An impromptu wedding feast followed and when, as evening shades settled down, the newly married pair drove away, an old shoe and a few handfuls of rice followed, as "Mrs. Preacher" said, to make the marriage perfectly legal. Patty Pearl had been in high spirits, but her husband could not quite drown the voice of the mentor as he noted the unnatural light in her eye and the flush on her cheek. On the way home she had a fit of hysterical weeping, but was quite herself when the doctor led her in and introduced her to Aunt Ruth as his wife.

After that she appeared to be two persons—a gay, happy one when anyone was present, a quiet, puzzling one when alone with her aunt and husband.

"I suppose it is all in a lifetime," she wrote in her journal and then closed it, sewed it up in a silk handkerchief that had been her father's, and placed it in the bottom of her trunk.

* * * * * * * *

If it was surprise and excitement they wanted, they certainly had it when, a few days before their departure for the South, Aunt Ruth told the truth.

Jeff Greely was at supper when Mrs. Waddle burst into the room crying: "Have you heard the news? But I know you haven't. But it's true; Ruth Westover told me with her own mouth."

Something as a man braces himself to meet an inevitable shock, Jeff settled back in his chair. Intuitively he felt from what direction the lightning was going to come. Indeed Patty Pearl, in their two or three chance meetings, had treated him with such marked coldness that he felt nothing worse could happen, but still he knew now that he had hoped against hope.

"Do tell! What is it?" Mrs. Greely cried, falling into a chair and rubbing her hands in gleeful expectation. News was so scarce in Westover neighborhood that one cannot blame her.

"Perhaps Jeff has heard," Mrs. Waddle remarked tantalizingly.

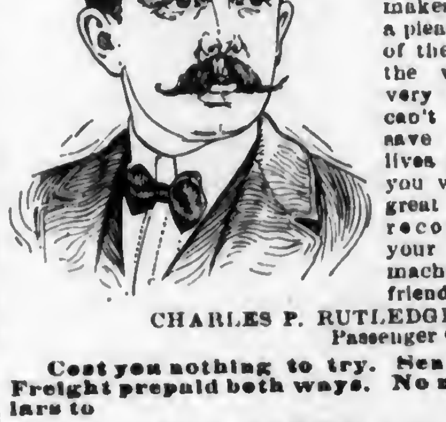
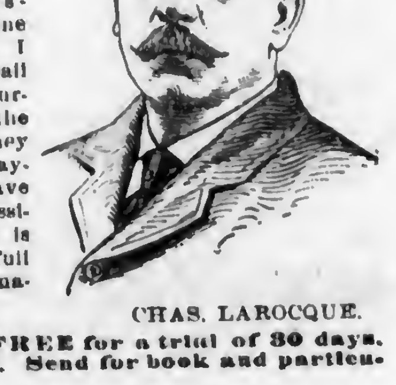
"I have heard nothing only that Uncle Billy Parr has had his boots half-soled. He spent a full hour telling me this afternoon."

Jeff enjoyed this little reprieve. It gave him a chance to get his breath.

"After all it is no surprise," Mrs. Waddle went on, ignoring his remark and helping herself to a fried cake. She was sure of her prey now and seemed disposed to play with it.

"Tryphena Waddle," cried Mrs. Greely angrily, "if you have anything to tell why don't you tell it?"

(To be continued.)

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NO MORE BLUE MONDAYS FOR ME.

READ THESE CONVINCINC TESTIMONIALS.

Div. 214 B. of L. E.
Perryville, Md., March 10, 1903.

Please find inclosed money order to pay you for the Washer, which has given us great satisfaction, and I assure you we would not part with it, as it is a fine machine and does everything you can claim for it. It surely makes washday a pleasure instead of the usual drag; the work is so very easy that it can't help but save women's lives and I assure you we will take great pleasure in recommending your valuable machine to all our friends.

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Passenger Conductor.

Turner's Falls, Mass., April 13, 1902.

I want to inform you about your washing machine. We are very well pleased and satisfied. We have had all sorts of washing machines, and high-priced ones, too, higher than yours cost, but they cannot do the work yours does. Now I am advertising your machine all over the town. I had two ladies call at my house Saturday evening to see the machine, and they both went away saying they would have one as soon as possible. Inclosed is money order for full payment on the machine.

CHAS. LAROCQUE.

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THE "1900" WASHER CO., 23 W. STATE STREET, BINGHAMTON, N. Y.
References: First National Bank, Binghamton, N. Y.

Small Fruit Growing.

L. F. KIRKPATRICK.

For raising small fruit, or fruit of any kind, buy your trees or plants, as the case may be, from a reliable nurseryman, and get the best kinds. Be sure and buy the best always, for it pays though the price may be high. For gooseberries, six gooseberry bushes in the middle of the garden will yield more fruit than ten or twelve along the fence. For the best berries, either goose or blackberries, keep them well cultivated and well pruned, and you will have earlier and better fruit than were you to let them grow up with old limbs. The Downing is my favorite among gooseberries. It yields a good, large berry. Never, for economy, plant your blackberries and gooseberries among your strawberries, for it shades them so that the leaves will be large, and the berries small and slow to ripen. For proper raising of strawberries, throw up ridges as for sweet potatoes, and plant in the fall or spring when the ground is in first-class condition. You cannot get the ground too rich. In the late fall place straw over the strawberries. Along in April, or as soon as the ground is warm enough, part the straw back on top of the ridges and the vines will grow out over it and the berries will be nice and clean. When you buy your plants do not get them all of one variety, but buy early, medium and late, so as to have berries all the season. Four years ago I bought one dozen Early Harvest blackberries, which the nurseryman claimed would bear five bushels each. They never have borne anything like that much yet, but they have always furnished us early table berries long before dewberries. They are of large size and excellent quality. One thing that everyone should know is how to root grape and berry cuttings. The following method I have always found good: Bury the cuttings in damp soil in the cellar; put plenty of sand in the soil, and for cuttings use last year's growth. Cut about a foot long and fix as above stated. Take up in spring as soon as warm enough. When setting out leave but a few inches of the cuttings out of the ground.

To protect your small fruit from mildew, spray with liver of sulphur. To protect currant bushes from the currant worm, dust them with white hellebore. I consider our American gooseberries better than foreign kinds, as they are free from mildew. For fertilizing strawberries I prefer putting it on before setting out, but some prefer fertilizing in the spring. For this I would use nitrate of soda or sulphate of ammonia, because they act quickly; but if you can get neither of these use hen manure, providing it does not come in contact with the plant. Don't use more than one hundred bushels to the acre. For planting strawberries make the rows three feet apart and plant two feet apart in the row. Plant either in fall or spring.

Mooresburg, Tenn.

[It will soon be time for fall planting of fruit, therefore we are glad to use more of the suggestions sent in last spring.—Ed.

WINCHESTER guns are made for all kinds of shooting and Winchester ammunition for all kinds of guns. Winchester goods are always reliable and yet they cost no more than inferior makes.

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ADVICE TO MOTHERS. Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

PARE CORE SLICE **Apples** in one operation by using **GOODELL APPLE PARERS** Seven styles. 60 cts. to $20. Hand or power. Write for Booklet. Goodell Co., 50 Main St., Antrim, N.H.

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Among the Flowers.

ROSIE L. M. TULL.

The wild cucumber is very pretty and quite suitable for a sunny porch, as it is quite hardy and of vigorous growth, making a very dense shade and coming from the seed each year. Now is the time to think about the vines of next year if you mean to have a wild cucumber, for the seed must be planted in the autumn, or at least I have found that the case. When I planted the seed in the spring I looked in vain for the plants until the next spring after they had remained in the ground during winter. Perhaps there is a way of persuading the seed to germinate in less time than a year when planted in the spring, but if there is I have not learned it. When planted in the autumn and the seeds were wooed by the chilling breezes, freezes and hoary blasts of King Winter I was never disappointed when spring came by their non-appearance. I have no wild cucumbers at present. I lost seed of them some way.

Can you find a prettier vine than the beautiful, delicate, fern-like foliage and star-shaped blossoms of the cypress? It is very hardy and a vigorous grower, making a dense shade when planted in a rich soil. I have often had tiny plants to come from seed that fell to earth the previous year, and grew into fine vines without much attention.

There are generally wild vines growing in one's locality that are pretty. There is the bittersweet, with its cool, glossy-looking foliage, and the trumpet vine, sturdy of growth with dark green foliage and large, trumpet-shaped flowers of red. The latter many inhabitants of this locality have trained over a trellis, porch or windows. I do not like them very near a building. There were several in our pasture in clumps of bushes that the stock kept trimmed, and were very pretty when in bloom, but they did not attain much height. The sister's call for a hardy vine for a sunny porch will no doubt meet with such a hearty response that I fear I shall collide with some other flower talker on the same subject. This is a world of different people with different ideas, and the sister will no doubt find herself wondering how she shall ever be able to select one from so many, each with such excellent qualities, and how they managed to keep hid so long? What will suit one, another does not like, and so—make haste slowly and in case of error there will not be so much to undo if you are looking for a permanent one. There is plenty of time, as it is too late for this year but none too early for next. Study the habits and merits of each one of them that you can, and with the knowledge of the location of your porch and your own liking of the beautiful, the useful and an eye to the harmonizing effect, you will no doubt be able to select one that just seems to fit into the niche. But few vines need much attention after they have been well planted, and most of them will give best results when planted in a good, rich soil, though most of them will do reasonably well in almost any kind.

A rose arbor is a dream which we hope will soon be realized. We planted six everblooming climbing roses this spring—Wm. Henry Maule's collection. Now that we have the rose plants we find that that is not all that is required for an arbor, and are at a loss to know just what to do. We are asking ourselves, "Will they need protection in this climate? If so what kind? If they must be removed from the frame and laid on the ground, how shall we train them effectively and yet so the vine may be removed?" Hush, don't tell! but we have three other roses that were planted this spring; two of them are Bride and Bridesmaid. Now don't you think we will have a rose bower soon?

Walker, Mo.

* * * * * * * * *

Margaret Mahoney, Mitchells, Va., writes: Among the many beautiful flowers, we find the rose a general favorite, and especially ever-blooming or monthly ones, and when once set out very carefully they continue to be a delight to the owner. They generally bloom from early in May until late in October. Too much cannot be said about this popular flower, and they are used on nearly every occasion. Those who desire to begin raising roses should be considering the matter now for the fall, and should select good plants, for cheap ones, no matter how well cared for, cannot do well.

Some object to setting roses out in the fall, but in this climate we find it perfectly satisfactory, providing they are not set out any later than the last of September or middle of October. The plants should be set out as soon as possible after their arrival, in a rich, loamy soil. If the soil is poor, use chip manure and sand. Water frequently and shield them from the sun for a week or two if necessary. By protecting them through the winter they will be ready to grow very rapidly the following spring, not forgetting to work, fertilize and water them occasionally. About six good roses would be a safe number for a beginner, and if taken proper care of, would induce one, I think, to send for more. When selecting them, one of every color should be obtained, so as to have a nice assortment. There are so many names of good roses it appears useless to mention them, save the American Beauty, which is considered one of the most popular in existence, and should by all means be included in every order. Many also grow roses in pots for winter culture. Being quite hardy they will live in an ordinary room, with but little heat. If the plants are not the desired height when budding pinch off the buds and water plentifully. For climbing purposes the Crimson Rambler is considered the most popular rose, and is a very quick grower.

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Turkey Raising.

MRS. J. A. SUTTON.

In the first place, I always select good breeding stock to raise from, looking well to weight and plumage. I prefer to have hens from sixteen to twenty pounds, and young gobblers from twenty-five to thirty pounds. I mate one tom with six to eight hens. I pen my hens early every morning during the laying season, and feed them well during the day, giving them warm food early in the morning and grain the rest of the day. I have been most successful with eggs when I used poultry food in the turkeys' food and kept grit by them. I give them plenty of fresh water during the day. I never watch hens to their nests; I find they lay as many eggs, and as regularly, after confining them to the pen, always turning them out as soon as they lay. I like to have some way of distinguishing my hens from each other, so I notice which one has gone on nest to lay, so I can turn out the ones that have laid. Gather eggs every afternoon and handle them very carefully. Have a box for the eggs in a warm room; turn them carefully every day. When I have about twenty eggs I keep them separate from the others, so as to set the oldest eggs first. When I find that by waiting for the turkey hens to sit the turkeys will be too late hatching, I place eggs under chicken hens until turkey hen is ready to sit, and then change. Then I have a few turkey eggs left over after my last turkey is set, which I put under a chicken hen. At hatching time I watch them very closely, taking shells from nest. At night I take all poults from the nest that are perfectly dry, put them in a warm room and cover them up. Do not put over twenty-five or thirty with one hen. As soon as all the eggs are hatched move the turkey hen, and the house you want her to use, away from the chicken yard, then they will not have gapes. When they are twenty-four hours old they will begin to eat. I feed them very little at a time of light bread or biscuit soaked in sweet milk, seasoned with black pepper. For a change I feed them boiled eggs. I watch very closely for lice, which I find on top of little ones' wings between the quills. Melt pure lard and grease their wings slightly. Be careful not to use too much on them, as there is danger of killing them. Always try to keep the little ones from getting wet during rain or in the dew. A blue grass pasture is best for them to run in. I prefer the Narragansett turkey.

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In the Kitchen.

V. C. M.

Even the kitchen may be made a very endurable place this torrid weather if one so wills and plans. In any case, despite all opposition, have a place to work away from the fire. If you cannot do any better, fix a cooking table out under the trees or in the shade of the house. Don't, if you value your health, physical and mental, stand to work, in a heated room. We have always been told that it is the monotony of farm life that sends so many women to the insane asylum; we think rather that it is the over-heating. O, when we remember the cabin home in which our grandmother had to cook for many summers, we wonder as we recall her calm demeanor and good nature. Perhaps heat is not the foe to everyone that it is to ourself; it simply drives us to frenzy, but it cannot be conducive to comfort and good temper in anyone, and we believe that the man who compels or even allows his wife to cook in a stuffy, over-heated room is committing an almost unpardonable sin. It can be helped even by the poorest if the will is good. Even gasoline and kerosene stoves make too much heat. These had better be in a little room or shed apart. But there are some things which the housewife can do for herself which she neglects too often. Open the windows. Have screening or barring over the entire opening and then lower a bit from the top and raise from the bottom. This creates a draft. Close shutters on the east and south in the morning and on the west in the afternoon.

Frequently wipe off the floor with cold water. If it is oiled this is about all it ever will need in the way of cleaning. Don't care more for your nice rooms than for yourself. For instance, if you are baking or ironing, and the range is going at "full blast," just turn back the dining-room rug and make room for your work table; when done, carry it out, wipe the floor where it stood, lay down the rug, and lo! It is in nowise injured and you feel one hundred per cent. better than if you had stood in the hot kitchen. Be sure and not cook more than is necessary. Liberally patronize the counter where picnic ham, New England ham and dried beef are sold. Buy canned salmon, cheese, grape nuts, etc. If your family like any or all of the numerous breakfast foods on the market, you are fortunate. Don't stint them. Then there are the fresh fruits, lettuce, salads and the many other cool things that, utilized, save much cooking, and are more healthful for summer. Avoid greasy meats, gravies and hot breads. One thing cannot be shirked, an abundance of sweet, wholesome light bread. Make this yourself and use it with good butter and fresh fruit. Even our "beloved" pie must take a back seat this weather. A large jar of cookies are convenient, but spare yourself at all hazards, H. C. sister. When ice cream gets to be a universal supper—or, better still, dinner—dish, then will the housewife do less cooking. Ice cream is cheap, inexpensive and much easier to make than many other things that we are in the habit of making. Substitute lemonade for coffee. In conclusion, "da as I tell ye not as I da."

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Correspondence.

A Wisconsin brother, commenting on our editorial of June 20th, says: "To restrict the production from the poorer stock is desirable, but it can hardly be done by writing in the papers, for these papers do not reach the undesirable class. To adopt this most radical and only sure means the world is not ready. That there is need of change is manifest enough. Let me quote from the last number of Harper's Weekly some things which are there at second hand. Two hundred native born married people in Massachusetts produce only 198 children. In the same State the yearly birth rate among native born is 17 per 1,000; foreign born, 58 per 1,000. Children to each family of native born, in year 1800, 6.1; 1830, 4.6; 1860, 3.3; 1872, 2.45; 1900, 1.8. That the lack of children among the native born and well-to-do is generally from choice I do not believe. Very often it is considered a misfortune. That it is really so I cannot doubt. That it is a menace to our civilization is certain, and yet the good Lord takes care of the Nation in some way and will no doubt continue to until its work in the great cycle of the ages has been performed, when it may reach senility and death to make room for another nation and its work. Whether the time be near or far no one can know.

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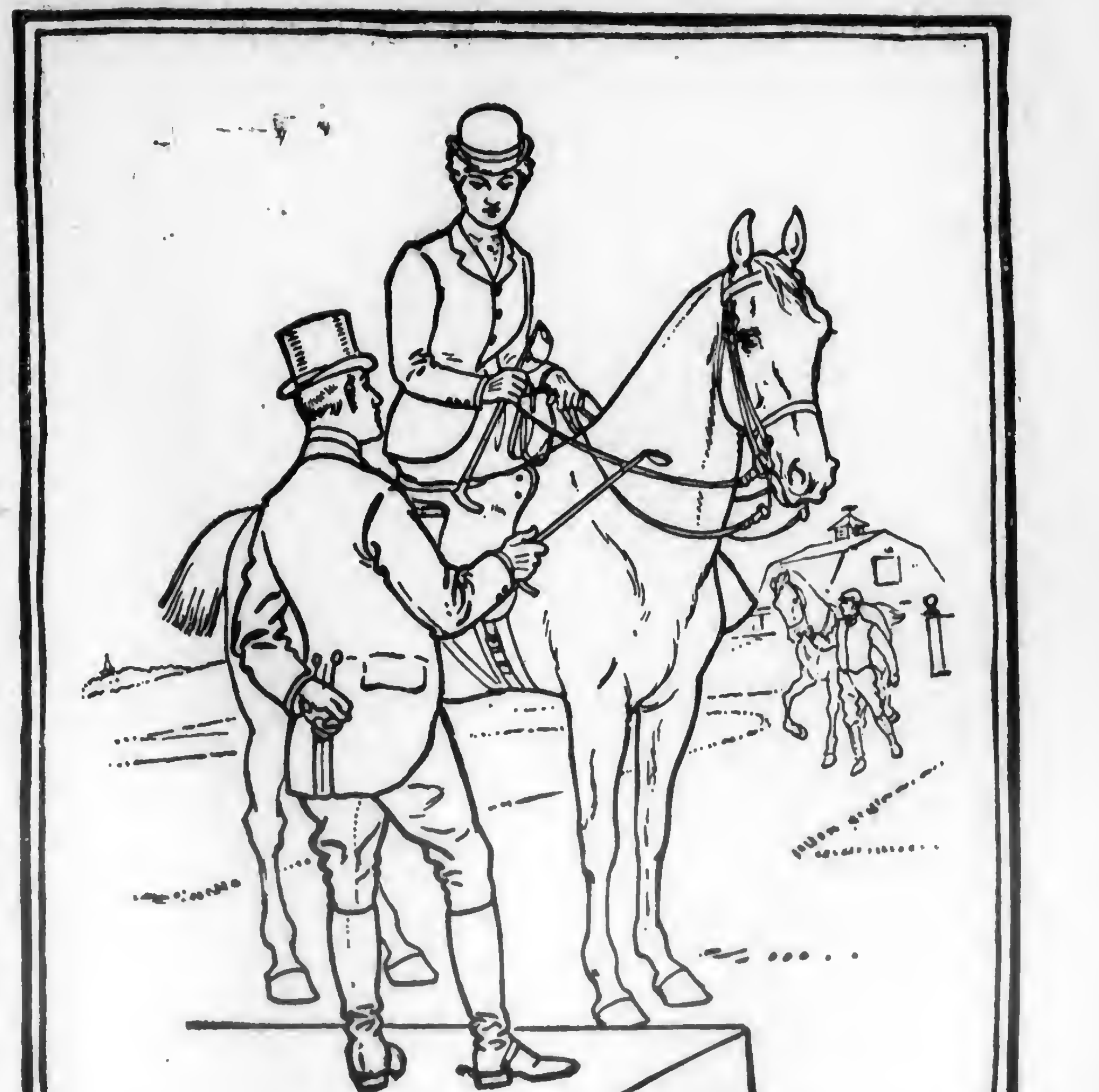
A club of 50 trial subscriptions to the P. F. to Jan. 1, 1904, at 10 cents each, will entitle the club raiser to a year's subscription to the Youth's Companion, absolutely free. Send the 50 names and $5 for the same and receive the best young people's paper published.



Gall sores and blisters cause the horse much pain. They come from heat and friction under the collar or saddle. The parts should be carefully cleansed with a pure soap that will not smart. Ivory Soap with warm water, is excellently adapted to this purpose. This soap is peculiarly efficient where it comes in contact with sores, as it is mild and pure. While cleansing thoroughly, it also soothes and heals.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 586, Aug. 22.—*What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in September?*

Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 584.—How Have You Succeeded Best in Exterminating Prairie Dogs?

Harry L. Smith, East Dixfield, Me.—I have never had experience in killing prairie dogs, but for woodchucks, or ground hogs, as they are called in some sections, I use the treatment recommended by the New Hampshire Experiment Station. Take a piece of old burlap and place it in the mouth of the burrow, quickly pour an ounce of bi-sulphide of carbon over it, shove it into the burrow as far as possible and fill the mouth of the hole with dirt. The fumes of the chemical suffocate the animal. It would seem that this treatment would exterminate prairie dogs. Carbon bi-sulphide can be bought at most druggists' but it must not be used near a fire or burning lamp, as the fumes are very explosive.

SUMMARY.

It seems odd that after several Western friends suggested this topic there should be no discussion of it at all from the section where the prairie dogs are troublesome. The best publication on this subject is Bulletin No. 116, of the Kansas Agricultural Experiment Station. The Legislature of Kansas passed a law for the destruction of prairie dogs which is given in full in this bulletin. This law authorizes the county authorities to purchase poisons for this purpose, and directs the Kansas Agricultural College to select a competent person to superintend the experiments for the destruction of the pest, as well as of the pocket gopher. The sum of $5,000 was appropriated for this purpose. It will be seen, then, that the destruction of these animals is a matter of much importance in the West. The correspondence in regard to the damages done by prairie dogs in Kansas brought out the fact that in that State alone there were about a million and a quarter acres of land occupied by prairie dog towns, and it is estimated that this is too low and that they really occupy two million acres of land. The annual loss to the pasturage of the State is set down at $80,000 annually, while the pocket gopher is also abundant in all parts of the State. Experiments in trapping the animals with various styles of traps caused the experimentor to conclude that trapping prairie dogs cannot be made a success. Some machines for forcing sulphur fumes into the burrows for the purpose of suffocating the animals were tried with reasonable success. It was shown that two men can treat 120 burrows in two hours. The chief expense is the labor and the first cost of the machine, which is $80. Experiments were also made with carbon bi-sulphide. The object was to ascertain the cost of this method when the material is purchased from the local dealers. It was found that with commercial refined carbon bi-sulphide the cost would be about four-fifths of a cent per burrow, and an average of 25 cents per acre. The most practicable way to use it was to saturate balls of dry horse dung with the liquid, roll them into the holes and stamp the sod down with the foot. A tablespoonful is enough for a burrow. A mixture of carbon bi-sulphide and gasoline, using three to four parts of the gasoline to one of carbon bi-sulphide, was used, applying two tablespoonfuls to a burrow on horse dung or with a spraying pump. This material works best when the soil is wet, as a dry soil absorbs the material too rapidly. Some have thought that contagious diseases might be introduced to the burrows, but this has not succeeded. Various poisons were tried, and the following was effective. Dissolve one and a half ounces of sulphate of strychnine in a quart of hot water. Add a quart of molasses and a teaspoonful of oil of anise. Thoroughly heat and mix the liquid. While hot pour it over a bushel of wheat and mix completely. Then stir in two or more pounds of fine corn meal. The amount of corn meal will depend on the moisture present. There should be just enough to moisten every grain of the wheat and no more. Let the poison stand over night, and distribute early on a bright day. Put a teaspoonful of the poisoned wheat in each hole occupied by the dogs, near the mouth of the hole in little balls. It is most effective after a cold spell when they are hungry. A patented formula was also used successfully and the patent right was purchased for the State, and the Kansas Experiment Station will send the formula to any farmer in the State, but does not publish it in the bulletin. It is estimated that the poison sent out by the Kansas Station exterminated the dogs on 250,000 acres and partly destroyed them on 150,000 more. It seems evident then that this method of poisoning, if followed up every winter, should soon clear the prairie lands of the nuisance. We would like to have had the experience of our readers in the West, and give the above as the best that has been accomplished in this direction.

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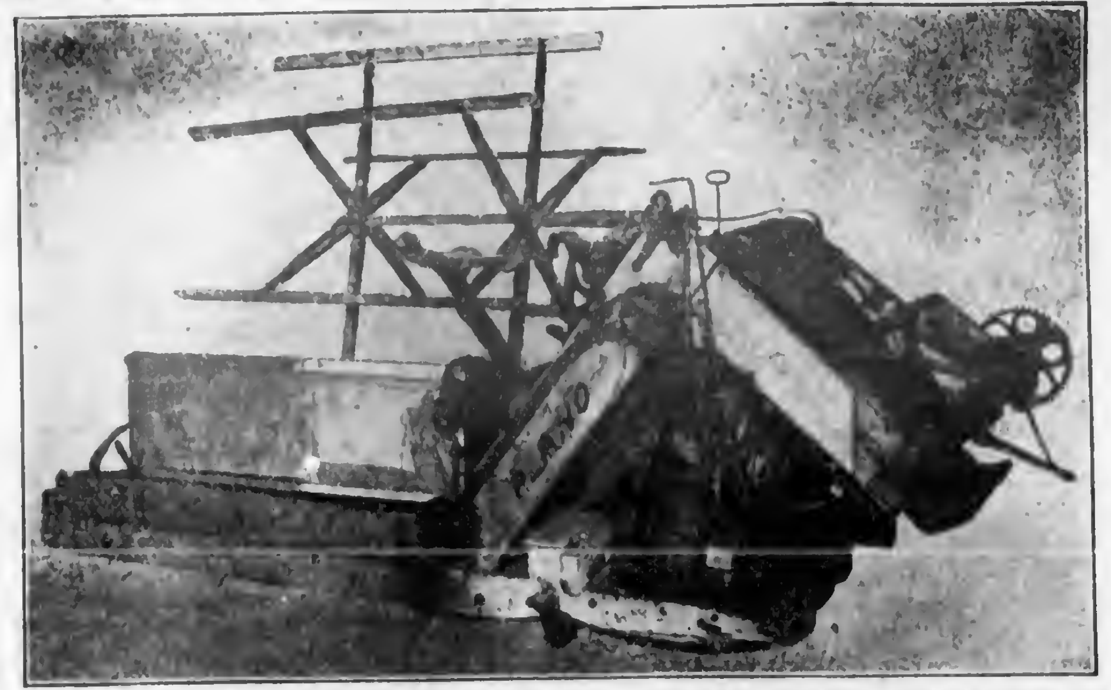
Chats About Advertisers.



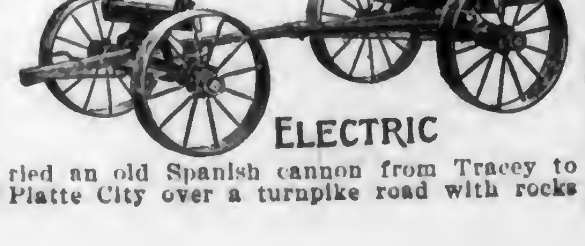
A Kansas Pioneer.—The illustration is from a photograph of an old Plano binder owned by E. F. Siscoe, Linwood, Kan. This machine for seventeen years past has cut a crop averaging from 90 to 140 acres each season. The expense for repairs during all that time was less than two dollars. This is the kind of testimonial that talks, and should certainly be very gratifying to the manufacturers of Plano machines. A concern which turns out a harvester so honestly built that it can hold its own against the Kansas winds and "rough it" through the early days of hard times on a Western prairie, can certainly be trusted to produce money-saving implements for ordinary farm use. In fact, the superb binder, as well as other machines sent out by Plano Division, International Harvester Company of America, is a striking improvement over the old-time harvester shown above, but it will be found to contain the same elements of durability and correct mechanical construction which have kept this old-timer doing business all these years. A handsome catalogue of Plano Binders, Headers, Reapers, Mowers, Rakes, Corn Binders, Huskers and Shredders, and Sickle Grinders can be had by addressing the company at Chicago or applying to any Plano branch house and mentioning the P. F.

Safety Appliances on Ensilage and Feed Cutters. — So many accidents have been reported in connection with the operation of ensilage blowers that too much care cannot be taken to see that every precaution has been observed by the manufacturers of these machines to insure their safe operation. Experienced operators would no more think of running a cutter unprovided with safety appliances than an engine without a governor or a boiler without a safety valve. The Smalley Blowers, made by the Smalley Mfg. Co., Manitowoc, Wis., are built with safety fly wheel and pulley, just the same as when carriers were used. The driving device is new. There is no wasted power and belt will not slip. All parts are made of best materials, frame is strong and the strain is no greater with blower attachment than when the ordinary carrier is used. The largest size machines will easily handle ten tons of ensilage in an hour, cut one-half inch, and elevate into any silo. Self-feed machines are made in six sizes and hand-feed in twelve sizes. An interesting catalogue telling all about these machines and full line of drag and circle saws, sweep tread powers, etc., will be sent free on request if you mention the P. F. when writing.

Buckeye Grain Drills and Cultivators.—The improvements in farm implements within the past few years is almost beyond belief. The old has given away to the new. Manufacturers are putting forth their utmost efforts so that the work of the farmer will be lessened, and the cost of production cheapened. As a factor in this change the firm of P. P. Mast & Co., 11 Canal St., Springfield, O., has played no small part. Some of the best improvements in seeding and cultivating machines having been due to the skill of their inventors. The Buckeye line of grain drills and cultivators, containing as they do all the latest and best improvements, and guaranteed to be exactly as represented, are favorably known everywhere, and their sales have been beyond all expectation. Farmers who have never used these machines should investigate and compare them with any other make. An interesting catalogue, illustrating the many recent improvements made in the Buckeye grain drills and cultivators, will be sent free to any address if you mention P. F.

Some Amusing Letters.

Platte City, Mo., Jan. 25, 1903.



Gentlemen.—The wheels I got of you carried an old Spanish cannon from Tracey to Platte City over a turnpike road with rocks sticking above the surface four inches. The cannon weighed 14,000 pounds and people expected to see the wheels break down but they didn't. I broke two axles and pulled the tongue out once, but the wheels did not break and if in 1000 years from now anyone visits Platte City, the old cannon will still be standing and people will tell about the little spindling wheels that carried it there.

Yours truly, J. C. H.

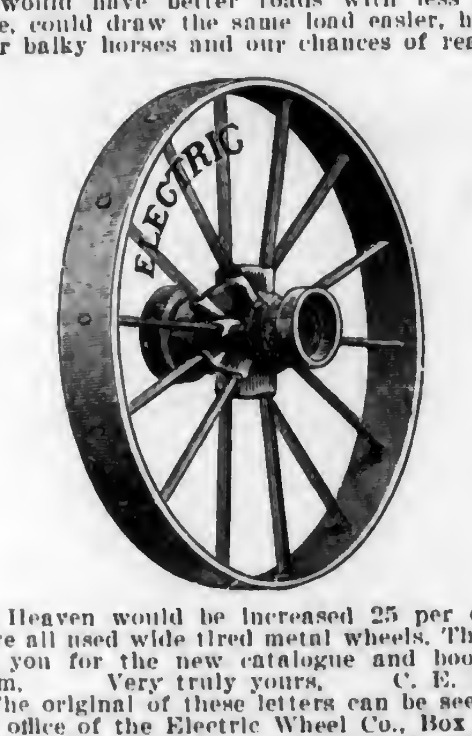
Eureka Springs, Ark., Feb. 1, 1901.

Dear Sirs.—Mr. Graves bought a steel-wheeled wagon, front wheels 24 inches, rear 30 inches, and put it into service at a sawmill. We put on a log scaling 400 feet, came down a mountain road where some places it dropped 8 inches on solid rock. Graves swore he would smash it if he could. A large hook on a half inch chain swung round and caught in one of the spokes. Of course, the wheel stopped, but the descent was so great that the load slid on the rocks, dropped off a ledge 8 inches, there was a crash, a bang, the hook tore off and no man could tell what spoke that hook caught on. Mr. Graves said he had tried hard to smash those wheels in some way, but he did not know anything that would do it but dynamite.

Respectfully, B. A. D.

Dover, N. H., April, 6, 1902.

Dear Sirs.—From your catalogue I believe you sent me stronger wheels than I ordered. You must have thought I was looking for a bargain and I certainly got one, as they are as good today as when they left the shop and run one-third easier on smooth hard road and two-thirds easier on a soft or sandy road. We would have better roads with less expense, could draw the same load easier, have fewer balky horses and our chances of reaching Heaven would be increased 25 per cent. if we all used wide tired metal wheels. Thanking you for the new catalogue and booklet, I am, Very truly yours, C. E. H.



The original of these letters can be seen at the office of the Electric Wheel Co., Box 113, Quincy, Ill., to whose wheels and wagons they refer. Better send for their free catalogue and know more about their wheels and wagons. Mention the P. F.

FITS

If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.

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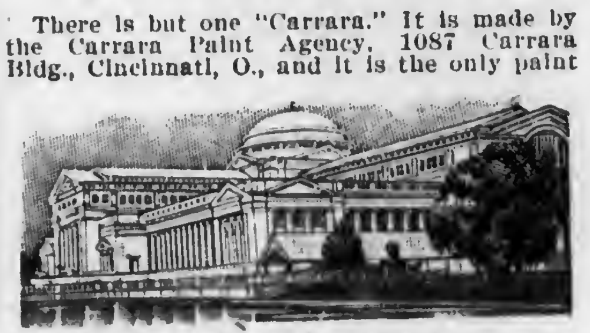
There is but one "Carrara." It is made by the Carrara Paint Agency, 1087 Carrara Bldg., Cincinnati, O., and it is the only paint



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in the world that is absolutely guaranteed not to fade, crack, chalk, peel or scale. It is not affected by acids, gases, fog, sea air or any climate conditions, and it covers more surface, gallon for gallon, than the best white lead and oil and costs less than the cheap mixed paints that injure more than they protect.

Carrara is used by the Pennsylvania R. R.; the Pullman Palace Car Co.; the Chicago Telephone Co.; the Field Museum, Chicago; the Kenwood Club, Chicago; the Cincinnati Southern R. R.; the Chicago & Eastern Illinois R. R.; the Denver & Rio Grande Railway and thousands of others of the largest and most particular users of paint in the world. The famous Waldorf-Astoria hotel of New York, one of the finest in the world, has used tons of Carrara because it is the best that can be found in the market today.

For interior or exterior it has no equal. Smooth and clean, it has stood the rigid test of time and man. If you want to save half your paint bills send your name and address for nearest Carrara dealer; 50 sample colors and a beautiful illustrated book sent free, showing a large number of fine houses just as they have been painted with Carrara, and keep well in mind that Carrara is the only paint ever backed by a positive guarantee in every case.

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OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

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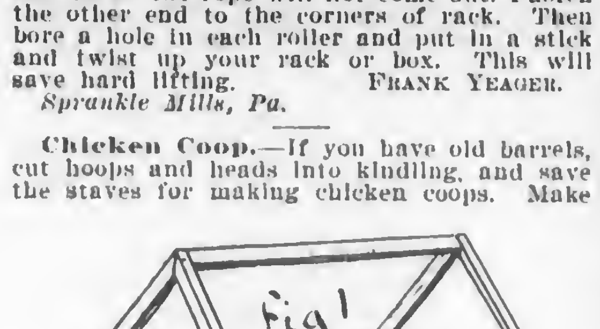
SHORT CUTS.

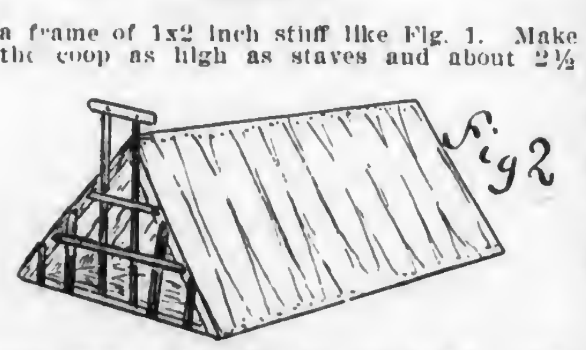
BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Lifting Rigging. — In your wagon shed above the loft, fix two rollers between the sleepers, then bore two holes in each roller about 3 inches from each end; get four pieces of inch rope that will reach from the wagon to the rollers. Then run the one end of each through a hole in the rollers, and tie so the rope will not come out. Fasten the other end to the corners of rack. Then bore a hole in each roller and put in a stick and twist up your rack or box. This will save hard lifting. FRANK YEAGER.
Sprankle Mills, Pa.

Chicken Coop.—If you have old barrels, cut hoops and heads into kindling, and save the staves for making chicken coops. Make a frame of 1x2 inch stuff like Fig. 1. Make the coop as high as staves and about 2½ feet long. Use lath for front end. Also sliding door as shown in Fig. 2.
Bondes Ferry, O. A. W. CLARK.





Light Draft Roller.—Anyone who uses a land roller will find it a great help to put block or washers on spindle between roller and frame. This greatly reduces the friction while running and better still when you go to turn it can be done quicker and easier.
Shelbyville, Tenn. ERNEST HUMMEL.

Copying.—To copy plats of land on deeds, survey bills, etc., place a sheet of paper under the map to be copied and stick pins through each corner of the plat. Then remove the map and draw lines connecting the pin holes.
R 2, Mansfield, Pa. C. D. KINGSLEY.

Handy Nail Box. — Take inch planed board the required size; nail ½-inch board on the sides to form box. Take two ½-inch boards and put in crosswise, one about 4 inches wider than the other, so as to cut a handle hole through. Saw half way in top side of under one and same in under side of top one, so that they will interlock, and nail them in from outside through side boards. Put a wire on outside near top so as to keep sides from getting loose. Small tills can be put in corners of places for nails to carry rivets, screws, tacks, etc., for repairing different things. Paint, and with careful usage you will have a nail box that will last a lifetime. H. C. DENISON.
R 1, Ada, Mich.

To Banish Lice from the poultry house nothing is better or cheaper than the fumes of burning sulphur. The gas is heavier than the air and when it becomes cool it will settle to the floor and into all low places. Stop all cracks and crevices, so that the fumes cannot escape or fresh air enter. Then place an old pan or kettle on the floor or on bricks on the floor, sprinkle sulphur on bricks or in kettle, pour on a little alcohol, then add more sulphur, touch a match to it and get out. Have the vessel containing the sulphur out in the middle of room, away from anything that will burn. Close the door tight and leave closed up for two hours. Repeat this two or three times and every living thing will be destroyed, including disease germs. MRS. ADA PARKER.
R 1, Athens, O.

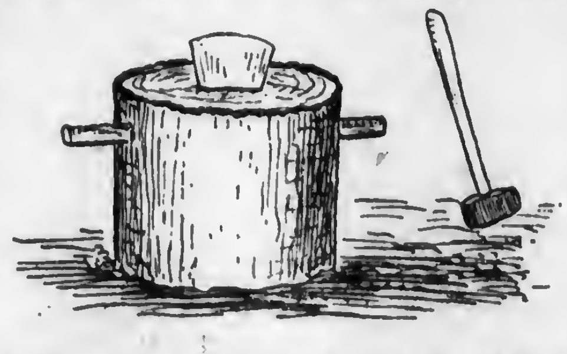
Handy Scoop for Oat Bin, etc.—Take a piece of sheet-iron with a straight edge 13 inches long. From the middle of this edge draw a 12-inch line at right angles to the first line. Now draw a curved line from the joint of the 12-inch line to each point of the 13-inch line; then cut out. Now take a 1-inch board 5 inches wide and cut a half circle. Nail the straight edge of sheet-iron around circle of board; bore hole in centre of board, sloping downward, insert a pin for a handle and you have a tool you would not want to do without. A. WAMPLER.
Knob Noster, Mo.

To Keep Boots and Shoes from Shrinking When Wet. — Fill your wet boots and shoes with dry oats. The oats will absorb the moisture and prevent them from contracting as they often do when drying out empty. C. D. LYND.
R 6, Parsons, Kan.

Cut Worms. — To protect plants from the ravages of cut worms when setting out, loosely wrap the stem of the plant with two or three thicknesses of paper (old catalogue leaves are excellent), so that it extends from below the surface to a couple of inches above. The worms were extremely bad this warm, dry spring, and of several methods tried the above was the only protection.

Driving Posts in Dry Weather. — When necessary to drive posts when ground is very dry punch hole for post with iron bar, fill hole with water and leave till water is soaked into ground and you will drive much easier. S. A. HINDMAN.
Fisher, Pa.

Home-Made Hardles.—For cutting off irons with hammer, take a piece of small log, saw it off any size you like best. Mine is about 1 foot high. Bore holes in the top end and chisel out to fit head of an old ax up to the eye. Fit the ax in and wedge it solidly. Bore holes in the block on opposite sides as shown in cut and fit in pieces of old broom handles for handles to move it by. Quite heavy iron can be easily cut in two with this home-made hardle and a hammer.
Simpson, Minn. M. W. POTTER.



Use for Cheese Boxes.—Take one of the low, round boxes in which cheese is bought by the storekeeper and stiffen the top of cover by nailing in two cleats. Nail the boards of the cover to the cleats and nail through the edge into ends of cleats. Wash it out thoroughly with warm Pearline suds, using a scrubbing brush if necessary, and dry in the open air. Pad the top of the cover with pieces of old quilt, making it higher in the middle, and cover with pretty cretonne or other cloth. Sew a frill to the edge of the top to reach to the floor, covering the sides of the box. This makes a good receptacle for shoes, stockings, mending pieces, or to use as a work box. If for the latter use, it should have pockets in the sides for the various articles needed in sewing. It is well to line the box with wrapping paper neatly pasted on. The pink paper gives a very pretty finish. Such a box in the bed room is handy to sit on while putting on shoes and to use for a footstool or low window seat. R. E. MERRYMAN.
Melrose, Fla.

A Short Cut in Cookie Making.—Making cookies in the usual way, rolling out and cutting, takes a good deal of time. When in a hurry, mix quite a stiff dough and drop a spoonful at a time on buttered pan, or spread in a thin sheet and when cool cut into squares. Any good cookie recipe may be used in this way. Do not make quite so stiff, of course, as when rolled out.
Ft. Pierce, Fla. MRS. A. J. MCDONALD.

Utilizing Pieces of Bread and Biscuit.—Set them in stove oven when the fire is low, spread on plates. When thoroughly dry put in chopping tray and with chopping knife chop as fine as possible. Then on moulding board with rolling pin roll very fine. Sift through colander. It is ready then for use. The following are some of the ways to use it. Mix with milk the same as grape nuts. Excellent for children's lunch. For griddle cakes allow one-half crumbs, one-half flour. Moisten the crumbs at night with milk or water, in morning add 1 egg, 1 teaspoon baking powder. This is made in the proportion of soda biscuit. It is very good to roll oysters in for frying. Chop a piece of suet, make same proportion as for biscuit. Stir the batter and put in pan or steamer, steam until cooked through; excellent with sauce of any kind. A very little put in a soup is very fine eating.
Bristol, Conn. MRS. H. JANE CULVER.

A Good Rat Poison.—Sometimes it is hard to get a poison that rats will eat in preference to corn. The following is an effective one which rats prefer to corn, as well as a cheap one: Take the vessel that you are going to make the poison in. Put in 18 matches to pint of water; brown-headed matches are best; if you don't have them use more; pour boiling water over them and let stand until cool. Take out the wood and stir in corn meal until it is like rather dry chicken feed and it is ready for use.
PAUL D. CONVERSE.
R 5, Morristown, Tenn.

◆

A CURE FOR ASTHMA.

Asthma sufferers need no longer leave home and business in order to be cured. Nature has produced a vegetable remedy that will permanently cure Asthma and all diseases of the lungs and bronchial tubes. Having tested its wonderful curative powers in thousands of cases (with a record of 90 per cent. permanently cured), and desiring to relieve human suffering, I will send free of charge to all sufferers from Asthma, Consumption, Catarrh, Bronchitis and nervous diseases, this recipe in German, French or English, with full directions for preparing and using. Sent by mail. Address with stamp, naming this paper, W. A. Noyes, 847 Powers Block, Rochester, N. Y.

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"My father had been a sufferer from sick headache for the last twenty-five years and never found any relief until he began taking your Cascarets. Since he has begun taking Cascarets he has never had the headache. They have entirely cured him. Cascarets do what you recommend them to do. I will give you the privilege of using his name."
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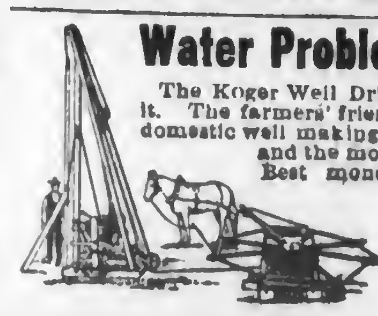
THEY WORK WHILE YOU SLEEP

Pleasant, Palatable, Potent, Taste Good, Do Good. Never Sicken, Weaken or Gripe, 10c, 25c, 50c. Never sold in bulk. The genuine tablet stamped C C C. Guaranteed to cure or your money back.
Sterling Remedy Co., Chicago or N.Y. 598
ANNUAL SALE, TEN MILLION BOXES



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HOW'S YOUR BROOD SOWS THIS YEAR?

HAMBURG, IOWA, Jan. 23, 1903.
International Stock Food Co., Minneapolis, Minn.
DEAR SIRS:—The "International Stock Food" which I have been using for two years has proven entirely satisfactory. I fed it to my brood sows before and after farrowing and it gave excellent results. I gave it a good test on some shoats last fall. Three of the smallest were placed by themselves and fed two measures of "International Stock Food" three times every day. The other lot was fed "International Stock Food" three times per week and all had same feed and water. At end of 60 days the three weighed 20 pounds apiece more than the others. Respectfully,
W. J. WOODLAND, Breeder Duroc-Jersey Hogs.

☞ We Have Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited. ☜

We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all our WORLD CHAMPION STALLIONS, DAN PATCH 1:59¼ and DIRECTUM 2:05¼; to our YOUNG STALLIONS, BROOD MARES, COLTS, WORK HORSES, CATTLE and HOGS. "INTERNATIONAL STOCK FOOD" ☞3 FEEDS FOR ONE CENT☜ is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite and Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It is Absolutely Harmless even if taken into the Human system. You insist on eating medicinal ingredients with your Own food at every meal. Salt is a stomach tonic and worm medicine, Pepper is a powerful stimulating tonic, Mustard is a remedy for dyspepsia, Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these Medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World. ☞Your Money will be Promptly Refunded in Any case of failure. It will make your Calves or Pigs grow Amazingly and has the largest sale in the World for keeping them healthy. ☞Beware of the many Cheap and Inferior Imitations. No Chemist can separate all the Different powdered Roots, Herbs, Barks and Seeds that we use. Any One claiming to do so Must be an Ignoramus or a Falsifier.

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Dear Sirs:—I received your "International Stock Book" and was more than pleased with it. It is worth more than $10.00 to me. Very truly yours, RICHARD J. MORRISSEY.

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Respectfully, GEO. W. NULL.

A $3000.00 STOCK BOOK FREE

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Peas with Corn.—Being limited in land and wishing to grow as much forage as possible, and having heard that cow peas would do well planted with corn, at time of planting the corn, I wanted to try some. So planted a 4-acre field of corn to the Clay pea dropping them in alternate rows and in each hill of the row. They came up nicely. In the fall I cut a certain number of hills without peas and the same number with them; husked and weighed the corn, and in four tests two were in favor of the corn planted without peas and two with peas. Some of the vines weighed 7 pounds. After the corn was cut I cut the vines with a sharp hoe. I had a nice lot of the best hay, and corn besides.

Growing Good Apples.—Here in our part of the country the idea is prevalent that some of the better classes of apples will not be successful in our soil, hence the Ben Davis is principally planted. When we came to this place we were bent upon planting some choice apples, and planted among others, the Winesap, Jonathan, Mammoth Black Twig and others. Our experience is that by giving the choice varieties good care, cultivating and fertilizing well, we can grow them successfully. We have hauled a part of our stable manure onto the orchard, but did not put it around the trunks, but spread it evenly all over the ground. Have also practiced pruning judiciously. Our apples last year were a joy to behold, and they were remarkably free from worms. Our trees show thrift and are an object lesson of what care and fertilization can accomplish. G. WINKLER.
Southwest City, Mo.

To Can Tomatoes.—After trying with poor success every other way we heard of to keep tomatoes, we found the following plan successful. Prepare the tomatoes, leaving the pieces as large as they will go into the can. Cut only enough to cook at once for one or two cans. Bring to a boil and cook not more than five minutes, being careful to remove before they begin to go to pieces. Have the teakettle full of boiling water and when fruit is nearly done fill the cans, which must stand in a deep pan filled with boiling water. Now with a spoon dip the tomatoes into the can without pouring out the water; keep pressing them in until can is full to the bottom. Seal, using good rubbers. Test by inverting and put away in a cool, dark place. Try it. MRS. E. C. LYON.
Dawn, Tenn.

Set Plants too Near the Fire. — A great mistake I made after sowing my tomato seed this spring was in setting too near the fire. They came up quickly, but in a few days began to drop over and die. Only a few of them lived at all and they are frail, sickly looking plants. About the same time I sowed some more of the same kind of seed, but instead of placing them near the stove I set them in a south window away from any fire. These were longer in coming up, but I felt well paid for waiting, as they were healthy, stocky looking plants and about twice as large as the others. This is my experience and I hope others may profit by it.
Orwell, Pa. MRS. WM. RUSSELL.

Mistake in Hiring Help.—Last year I took the advice of neighbors in regard to hiring help. I hired a man until corn was laid by and concluded to do the rest myself. Although I had 25 acres of small grain, about 35 tons of hay to put up, some manure to haul, 25 acres of fall plowing to do and 10 to 15 acres of corn that I wished to cut and shock, I thought I could do it all after being persuaded by neighbors that it would not pay to hire a man. It rained almost constantly and the hay was damaged from $75 to $100, and I finally had to hire a man to help put it up. My corn fodder was also badly damaged and I was two weeks behind in beginning to husk corn. I could have put my hay up in nice weather while I was exchanging work with my neighbors to get my small grain stacked. Had the season been very favorable I might have done the work very well, but it looks to me as though it doesn't pay to run the risk. CHAS. E. RIDDLE.
Ute, Ia.

Getting Rid of Potato Bugs. — The best method I have found to rid potato vines of bugs is by using a shaker; mine is made of tin. It holds one gallon and has a handle soldered on the top, the bottom being perforated with small holes. Fill with a mixture of lime, ashes, sulphur and Paris green. Dust the vines when the dew is on, also after a rain. This is also good for vines and egg plants. To produce dark green foliage and a prolific crop of immense strawberries sprinkle the vines with a solution in which has been dissolved carbonate of ammonia and saltpetre equal parts. M. H. BURNS.
Knoxville, Tenn.

Feeding Chicks.—I had 34 fine chicks, fed them some curd that had been scalded too much. Lost four and several others dropped for several days with indigestion. When they were about over this trouble and began to look thrifty the children threw out a quantity of millet seed and the chickens ate all they would. The next morning I found five dead, one nearly dead and another dizzy. They kept dying until in four days I had but 13 out of 34 left. The millet seed swelled in the craw until it was as tight as could be and the chicks seemed to suffer terribly. A neighbor lost a hen and entire brood by feeding dough wet with salty water.
Sweetwater, Tenn. MRS. J. P. JANEWAY.

Cured Clover Bloat.—My cattle have an abundance of rich pasturage, including white clover, and one morning this spring I found one of the heifers badly bloated. I supposed the only relief was in tapping her and went for a man who understood doing it. While I was gone she grew much worse and my father gave her a half pint of kerosene. In a few minutes she began to belch up and was soon relieved. She seemed unable to start her cud again, so in the evening I gave her a half pint of melted lard and a heaping tablespoonful of salt mixed together and she is now as well as ever.
Sigourney, Ia. WALTER E. HOFFMAN.

Removing Gloss from Clothes.—A young boy who reads this page to get practical helps writes for me to send a method of removing "gloss and shine" from boys' clothes. He says he is an orphan boy and has to look after himself and oftentimes his nice clothes are not otherwise damaged except this gloss, and it would repay him to restore the nap, as he often thinks his clothes look shabby and gets a new suit, when but for this shine they would be all right. Clothes that have been worn for some time frequently get shiny, which as you say, makes them unsuitable for street wear. They can be restored to their original freshness and newness by rubbing emery paper against the fabric hard enough to raise the nap. This will not injure the goods and will greatly improve the looks. A warmed silk handkerchief rubbed against cashmere or cloth will sometimes accomplish the same result. To clean grease spots or paint from your clothes make a hot suds of rain water and gold dust washing powder; dip a sponge in the hot suds and rub the spot out quickly, then wipe dry with a cloth on which there is no lint. It will take them right out, but must be done quickly. MRS. S. J. HENTON.
Georgetown, Ky.

Canning Sweet Corn.—Use nice fresh corn at right stage for table use; cut from cob and pack very tightly in Mason jars. I have found an old tablespoon with handle bent straight up just back of bowl, very good to pack corn with. Press it in until the juice fills all the spaces, then screw on tops using new rubbers and stand on straw in wash boiler, with straw between to keep cans from touching. Half cover cans with cold water, cover boiler tightly, bring to a boil and keep boiling steadily for four hours. Keep hot water handy to fill up with as water boils away. When done lift out and immediately tighten tops as much as possible. Keep cans in a cool, dark place. Be sure that the tops are not bent and that the rubbers are new; don't cover cans high enough to boil rubbers. If you will follow these directions success will be certain and the corn will be much better and more wholesome than when canned with acids. Succotash may be canned the same way, only unscrew covers when half done and screw them tight again at once; this allows gas to escape. J. A. MCFARLAND.
Attica, O.

Experiments with Catch Crops. — Last summer I lost my corn and beans from a freshet on July 4th, and, of course, too late for corn. I, together with many likewise unfortunate, sowed millet and buckwheat and planted 5 acres of late beans. It was good, strong land and all made a splendid growth, but the frost caught the beans and some of the buckwheat. The millet alone paid well, as I cut some 10 or 12 tons of as fine hay as I ever fed. Millet is one of the best feeds for cows that I ever used. I harvested the beans and threshed with a flail, leaving about one-half in the straw, which makes splendid sheep feed. The buckwheat was nearest a failure of any, hardly paying for gathering. Under similar conditions I would sow millet, but would not plant beans or buckwheat as late as July 15th. ROBT. MATE.
Chesaning, Mich.

Gapes.—Let those who lose a lot of nice young chicks every spring and summer from gapes try feeding them cayenne pepper as soon as they seem to have a cold in the head or before gaping. We have fed this for a number of years and seldom lose any. At first I used to scald the pepper and soak some bread with the water, but have since found that it does just as well when fed dry, and is more convenient. A few pennies' worth bought at the drug store will last a long time. Sprinkle it liberally on some soft food, mix well and the chicks will eat it readily.
Columbus Grove, O. EMMA L. ELY.

Preventive of Gapes. — For years we have lost a great many chicks from gapes. Last year and the year before there was much wet weather and this appears to favor the disease. We had a roll of tarred paper left after laying a slate roof and we thought that to lay this over the small coops would be good to keep the rain from blowing in. We also placed a ply of this paper under the coops and fed on it. When one side got dirty we turned it the other side up. When both got foul we took a bucket of water and broom and scrubbed clean, then spread in the sun to dry and when replaced had clean quarters again. By this means we almost or altogether escaped the plague of gapes. We practiced this last year and our success was astonishing as compared to what it was before. The paper is cheap and you can keep your feeding place much cleaner by using it. It is worth trying, at least.
Mosgrove, Pa. THOMAS PATTON.

CLOSE TO NATURE.

The American Farmer the Greatest Man in the World.

THE American farmer is the greatest man in the world to-day because he is master of the soil—he is gaining in intelligence quite as rapidly as his products are increasing in magnitude. Our recent combines of capital in United States measured in money are enormous, yet such figures sink into insignificance when compared to the money, brain and brawn invested in agricultural industries. For instance, the farmers of Minnesota and Dakota have received $300,000,000 for their products in a single year. The farmer knows what Nature will bring forth for him from his experience in the past. He knows if certain seeds are planted and properly cared for that Nature will take care of the rest. In the same way *you are master of your own destiny.*

Take proper care of your own body and all will be well—but allow the weeds to grow and you will reap a crop of sickness. Ella Wheeler Wilcox well says: "If you come into the world with weak lungs or anæmic blood it will require more effort for you to become robust than for some well born virile child who has only to breathe or frolic to keep in health." "Fear nothing," says Dr. Pierce, "providing your blood is in good order—keep your mind on the fact that you were meant to live and it only needs a little effort on your own part to keep healthy and strong—rid your body of the poisons that are apt to accumulate and your system is ready to ward off the attack of the germs of disease." Dr. Pierce's Golden Medical Discovery makes rich, red blood—by increasing the number of red blood corpuscles. There is no alcohol in this great tonic to shrivel up the red blood corpuscles. An alterative extract, made only of herbs and roots it goes about its work in nature's way. Only good can come from its use as it stimulates the liver into proper action, and feeds the worn-out nerves, stomach and heart on pure blood. Used for over a third of a century it has sold more largely than any other blood medicine in the United States. More bottles of Dr. Pierce's Golden Medical Discovery are sold to-day than ever before—that is the true test of its medicinal value after thirty-seven years of deserved popularity. Have you ever thought that it is probable that the earth supplied us with the means to keep our bodily vigor, our health, if we only knew it? The animals know by instinct what is good for them and will search until they find in some plant what they need for correcting indigestion or constipation, etc. Is it, therefore, not possible that there are roots and herbs supplied by nature which will cure the diseases that afflict human kind? That is why Dr. Pierce, of Buffalo, N. Y., has such faith in his "Medical Discovery." Years ago, when he was in general and active practice, he found that a combination of certain herbs and roots made into an alterative extract without the use of alcohol, would always put the stomach into a healthy condition, nourish the tissues, feed the blood and nerves and put healthy tone into the whole system.

There are some people who can lose *fat* to advantage, but the loss of flesh is one of the accepted evidences of failing health. As flesh-making processes begin in the stomach, so naturally when there is loss of flesh we look first to the stomach for the cause. And the cause is generally found to be disease of the stomach and digestive and nutritive tracts, resulting in loss of nutrition and consequent physical weakness.

Dr. Pierce's Golden Medical Discovery restores the lost flesh by curing diseases of the stomach and other organs of digestion and nutrition and enabling the perfect digestion and assimilation of food from which flesh and strength are made.

Dr. Pierce's Golden Medical Discovery purifies the blood and entirely eradicates the poisons that breed and feed disease. It thus cures scrofula, eczema, erysipelas, boils, pimples and other eruptions that mar and scar the skin. Pure blood is essential to good health. The weak, run-down, debilitated condition which so many people experience is commonly the effect of impure blood. Dr. Pierce's Golden Medical Discovery not only cleanses the blood of impurities, but it increases the activity of the blood-making glands, and it enriches the body with an abundant supply of pure, rich blood.

"I consider Dr. Pierce's Golden Medical Discovery the most wonderful blood remedy that a sick man can use," writes Mr. P. Schug, of 653 Lake Street, Appleton, Wis. "Nine bottles changed me from a physical wreck to a well man within a few short weeks. Some two years ago, through complications in sickness I became blood-poisoned, which spread through the entire system, making me very miserable. Skin became yellow, eyes glassy, and my step slow and heavy. A general falling off of flesh followed the loss of appetite, and I became thin and emaciated. I felt much worried, as the doctor's prescriptions did not help me any, but after I had taken only one bottle of 'Golden Medical Discovery' I felt that I was on the road to speedy recovery, so I continued taking it regularly for ten weeks, and am glad to say that at the end of that time the poison was eliminated from my system and I was in wonderfully good health and strength."

"Our little boy, Ray M. Cronk, age five years, is taking the 'Golden Medical Discovery,' having had typhoid fever last April," writes Mrs. L. D. Cronk, Redfield, Oswego Co., N. Y. "He had a four week's run of the fever, then took cold and had a relapse which put him back five weeks and left him in a weakened condition. He has taken three bottles of 'Golden Medical Discovery' and three vials of your 'Pellets,' and is getting to be a nice, fat little boy, for which we are very thankful. Mr. Cronk is going to have his photo taken soon and send you one, also little Ray's, so that you can see *two more whose lives your wonderful medicines have saved.* Our dealers are selling your medicines faster than ever before, since my husband's recovery, as every one gave him up to die, except myself. I had great faith in your wonderful medicines and knew they would help and cure him and I was not disappointed."

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Dr. Pierce's "Medical Adviser" will be sent on receipt of stamps to pay expense of mailing *only.* Send 21 one-cent stamps for the book in paper covers, or 31 stamps for the cloth-bound volume. Address Dr. R. V. Pierce, Buffalo, N. Y.

WHEN YOU TOUCH A MAN'S POCKETBOOK

You Touch Him in a Vital Spot.

This is the reason we ask every reader of The Practical Farmer to read carefully this advertisement, and then send for our book which tells of our plan of co-operation. This plan means something—something that puts money—a lot of money—into your pocket book. We cannot tell you all about our proposition in an advertisement, as space does not permit; but **surely** a plan of co-operation that makes the buyer of supplies and merchandise a share-holder and participator in the profits of the store he buys from, is of enough importance to cause every one who uses goods to at least send for the book which fully describes this plan, and read it carefully. This plan is worth the careful consideration of every sensible, far-seeing man and woman who knows that

Economy Means Wealth and that Co-Operation Means Economy

There is absolutely no argument against price, and the object of our society first, last and at all times is to reduce the price of all commodities used in the home and on the farm to the very lowest notch. We want you to join our society, not so much because we need the money that you would pay for our stock (single shares of which sell for $10), but we want you for a co-operative factor in our mammoth society. We want your influence and your encouragement, and for this influence and encouragement we propose to save you anywhere from 15 per cent. to 40 per cent. on every dollar's worth of goods you use, and at the same time **pay you a dividend** on what little stock you may purchase from us. There is nothing mysterious or confusing about our entire proposition. It is just as plain as the nose on your face. By combining thousands of buyers together all over the United States, who will work on a co-operative plan, knowing that every dollar's worth of goods they buy themselves or influence to be bought in a store where they share the profits will benefit them, you can easily see the gigantic business that will be built up. The American people like to have a practical illustration, and we offer this illustration of our plan as the simplest way of putting before the readers of The Practical Farmer just what our plan of **co-operation** means:

We print herewith a reproduced photograph of our celebrated Kenwood Sewing Machine, which is a five-drawer, automatic lift and drop cabinet machine, having the easiest running ball bearings, and is the highest grade up-to-date sewing machine on the market. The regular retail price of this machine if purchased in a retail store or from a local dealer would be at the lowest $35. Our mail-order price for this machine in our regular catalogue to customers who are **not** stockholders in our society is $18.75, and the price to members of our Co-Operative Society is $15.00 net.

You can easily see, without being told, the practical part of our proposition, and that we propose to save $3.75 on this one article to our stockholders, and at the same time letting your participate in the profit that is still left to the company in which you are a stockholder, and which profit will come to you in dividends upon your stock at the end of every six months. This is only one article of the thousands that we sell. We catalogue everything that is used in the home and on the farm, from a knitting needle to a threshing machine, and there is not a single thing that you can think of that we cannot quote you price much lower than your local dealer can buy it himself. Another feature of our co-operative plan is that we want every one of the members of our society to feel and realize that he has an interest in the most gigantic buying institution in the World, and that he has protection in every way from being over-charged on anything that he uses. We want every member to feel that he has a "friend at court," the great court of merchandise, and when he comes to the city he has a place where he is welcome, and where he can secure information of any nature, free of cost, and information that is positively reliable. We ask the readers of The Practical Farmer to kindly consider this proposition carefully. Read this advertisement over again, digest it well, and then send for our book, which is free, and which tells in detail our entire plan. We ask you to use our judgment in advising you to send for the book, which costs you nothing, and then ask you to use your own judgment as to whether you want to become a member of this gigantic society of people who want to buy at the lowest prices. **Write for the book at once.**

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15 miles east of Harrisburg, Pa., in Lebanon Valley. Early drought followed by wet weather. Hay crop late, but good. Wheat a fair crop. Oats heavy and lodged, beginning to ripen. Corn looks well, though some was planted too late. Young grass and pastures in good condition. Dairying an important industry and silos being built. M. S. Hershey building chocolate and cocoa factory, said will be largest in the world when completed. Fat cattle almost all sold at a loss to feeders. Horses and cows of good quality, high in price. Farm labor $1.50 per day and board. Wheat, 75c.; corn, 55c.; oats, 40c., per bu.; milk, $1.15 to $1.40 per cwt.; new potatoes, $1.00 per bu. People enjoying a period of great prosperity.
Vian, Pa., July 27, 1903. A. B. SHENK.

Located 8 miles south of Statesville, N. C., the county seat of Iredell county, on the A. T. & O. R. R. Good healthful country; good water. Farmers well up with farm work. Some have quit cultivating corn. Cotton will get one or two more workings. The average condition of farm crops compared to last year: Wheat, 60; oats, 90; corn, 75; cotton, 95; Irish potatoes, 100; gardens and melons, 100. Farm animals kept up well; condition of all stock, 105. Farm products of all kinds bring good prices. Good many cow peas sowed and looking well.
R. L. MILLS.
Ostwalt, N. C., July 25, 1903.

We have been having very hot weather. Wheat and oats harvest is over; got a very good crop. Had an early drought, but rain came in time to save wheat, oats and potatoes; corn and cotton are looking well considering the cool spring we had for it to take a start growing. Farmers are laying their corn by but are two weeks later than we commonly lay by. Farming is going on very well, but I think we need the P. F. in more homes. Fruit crop is light, except apples, which are good; blackberries very good and being picked and sold at 20 to 25 cents per gallon; all other prices are high.
Hunt, Ark., July 24, 1903. A. D. PRICE.

Located 3 miles from Birds Eye, Dubois Co., Ind. The spring has been very dry. Wheat and oats are a light crop; corn looks bad on account of drought; good rain recently; pastures poor on account of dry weather; hay is a short crop. Butter is worth 12½c. per lb.; eggs, 12½c. per doz.; hogs, 5½c.; cattle, 3c. per lb; wheat, 70c.; corn, 42c.; oats, 30c. per bu.; bacon, 15c. per lb. We have telephone lines extending over the country and free delivery on all Star mail routes since July 1st. We live in a new oil field; 12 or 15 oil wells have been drilled and oil has been found in all but two. It is impossible to tell in what quantity, as they never say what a well will yield; they are drilling here and there, I suppose trying to locate the oil. Several companies have leased the land all over a large territory. What the result will be cannot be told as yet.
ANDREW CROOK.
Birds Eye, Ind., July 27, 1903.

In Southwest Missouri the weather is getting too dry for corn to do well. Good weather for threshing grain, which work is progressing finely. Wheat light crop; oats good; clover heavy; timothy medium crop; hay about all made. Horses scarce and sell high; cattle and hogs declining in price. Much land is selling at advanced figures, price ranging from $20 to $45 per acre; horses, $75 to $125; milch cows, $25 to $35 each; hogs, $5 per cwt.; butter, 12c. per lb.; eggs, 10c. per doz.; farm hands, $15 per month.
SAMUEL TURNER.
Newtonia, Mo., July 25, 1903.

Farm work somewhat backward on account of heavy rains. Grain crops have been harvested; wheat 25 to 30 bushels per acre; corn looking very well; pastures good. Prices: Wheat, new, 70c.; corn, 50c.; oats, 30c.; potatoes, new, 65c. per bu.; hay, $14 per ton; hogs, 5c.; butter, 14c. per lb.; eggs, 14c. per doz.; horse high; milch cows, $25 to $40 each. E. K. WELTMER.
Cedar Valley, O., July 28, 1903.

City of 300, ten miles by rail from Washington. Fine farming country. Land $40 to $125 per acre; rent, two-thirds crop or $3 to $4 per acre. Rural free delivery and telephones; three churches; 4-room school. Threshing going on. Hay crop fine; corn late but looking well. Wages, teachers, $35 to $80; farm hands, $24 to $26 per month; girls, $2 to $4 per week; chickens, 11c. per lb.; eggs, 10½c. per doz.; new potatoes, $1; apples, 60c. per bu.; blackberries, 8c.; strawberry crop was good, 10 to 15c. per qt.; bacon, 20c. per lb. Plenty of rain this year and last. We can't do without the P. F.
Crawfordsville, Ia., July 25, 1903.
MRS. C. M. STRAIN.

Located in the northeastern part of Pulaski Co., Northern Ind. Spring rather dry; plenty of rain about 12th or 15th of May; 5 inches of water fell the night of July 2nd. Crops and pasture along the river and low lands badly damaged. Very heavy wind night of July 17th, damaging corn some; outside of that, high ground crops are looking well. Prices fairly good; butter, 12c. per lb.; eggs, 14c. per doz.; spring chickens, 13c.; ducks, 10c.; turkeys, 9c.; dressed hogs, 8c. per lb.; potatoes, $1 per bu.; corn, 63c. per cwt.; labor, $1 per day. JOHN ARNOLD.
Ora, Ind., July 27, 1903.

Hall county is one of the northeastern counties of Georgia. Gainesville, the county seat, is the centre city of North Georgia. There is a good market for produce of all kinds here. Good church and school advantages. Crops will be better than was expected one month ago, but now good cheer prevails. Corn will be a fine crop; some cotton is small yet, but the most of it is good; first known cotton blossom on July 11th in our field; people are looking for a fine yield; pastures generally good. Gainesville has not recovered from the great cyclone yet; some crops literally torn to pieces by the wind, but they have about gotten over it. A good apple crop; peaches are not so plentiful; a good wheat crop has been harvested. Land is very high here, from $10 to $100 per acre. Prices are as follows: Corn meal, 90c. per bu.; flour, $1.10 per 50-pound sack, or $4.25 a barrel; hens, 27c.; friers, 15c. each; eggs, 12½c. per doz.; butter, 15c. per lb.; country produce of all kinds brings a good price. May the P. F. ever be published to brighten agriculture. WATSON L. ROPER.
Gainesville, Ga., July 25, 1903.

Located in Western Escambia Co., Ala., on L. & N. R. R., 40 miles from Mobile, 50 miles from Pensacola, 2 miles from northwest corner of Florida. Plenty of cheap land, from $2.50 to $10 per acre, not improved. Produces cotton, corn, sweet potatoes, watermelons, rice, etc. Especially adapted to strawberries and peaches, watermelons and sweet potatoes. Winter climate equal to California; mercury seldom falls below 27 degrees above zero in winter; highest this summer to date, 97 degrees. More attention is now being paid to farming. Heretofore it has been turpentine and lumber. Prices: Horses, $50 to $125; mules, $50 to $150; cows, $25 to $50 each; flour, $3.75 to $4.50 per bbl.; corn, 70c.; oats, 65c. per bu.; hay, $15 to $20 per ton; eggs, 15c.; chickens, $2.40 to $4 per doz.; wood free. J. H. WILCOX.
Nokomis, Ala., July 25, 1903.

Weather very warm. Harvest over; wheat 75 per cent. of a crop; oats, 50 per cent.; early planted corn 100 per cent.; late planted 50 per cent.; prairie hay, 100 per cent.; potatoes and garden 75 per cent.; apples and peaches 25 per cent.; berries and grapes 100 per cent. Wheat, 68c.; oats, 35c.; corn, 50c.; potatoes, $1 per bu.; choice butter, 25c.; store stock, 15c. per lb.; fresh eggs, 15c. per doz.; spring chickens, 15c. per lb.; good horses scarce and high, $100 to $200; cows, $25 to $50 each; pasture high; hogs very scarce, $5 to $6 per cwt.; hogs generally healthy; hay, $6 to $10 per ton; farm help scarce, $1.50 to $2.25 per day; house help, $2 to $3 per week; farm land, $25 to $50 per acre; grass land, $100 to $300. Have free delivery and electric cars. Country rapidly developing gas and oil territory. Iola is a manufacturing town. Market is good. There is general prosperity. Long live the P. F.
MRS. S. E. WALTER.
Iola, Kan., July 25, 1903.

Situated in the hills of E. Tennessee, 76 miles west of Bristol, 55 miles east of Knoxville. Principal crops are corn, hay, wheat and oats. Fruit and vegetables do well here. Land mostly in a run-down condition, but farmers are waking up and improving their farms. Poor land sells from $3 to $10 per acre; good land, from $20 to $30 per acre; corn, 70c.; wheat, 80c. per bu.; hogs, 6c.; cattle, 3c.; hens, 12c.; butter, 18c. per lb.; eggs, 11c. per doz. We consider the P. F. a practical paper, indeed. G. R. WALKER.
R 12, Bullsgap, Tenn., July 27, 1903.

Located in northwestern part of Crawford Co., 14 miles west of English, the county seat. Principal crops and condition about as follows: Wheat, 35; corn, 90; oats, 70; potatoes, 100; fruit 30, except blackberries, which are abundant. Prices: Horses, $75 to $125; mules, $75 to $150; cows, $20 to $35 each; hogs, 5¼c.; hens, 9c.; chickens, 12c.; butter, 12c. per lb.; eggs, 12c. per doz.; wheat, 75c.; corn, 42c.; oats, 32c. per bu.; land, from $5 to $20 per acre, according to location and improvements. Season favorable for pasture and crops of all kinds. Plenty of pure water. Health generally good.
LILLIAN ZIMMERMAN.
Wickliffe, Ind., July 27, 1903.

Located 4 miles north of Moultrie, the county seat of Colquitt county. The heavy and incessant rains in June did much damage to crops, especially cotton. With good seasons from now on we expect 50 per cent. of a crop of the fleecy staple. Prices of farm produce: Corn, $1 per bu.; hay, $1.35 per cwt.; sweet potatoes, $1 per bu.; Georgia cane syrup, 45c. per gal.; spring chickens, 35c. each; eggs, 20c. per doz.; turkeys, grown, $1.25; spring, 75c. each; hogs, $5; cattle, $4; mutton, $8 per cwt; mules, $75 to $175; horses, $50 to $150 each.
J. M. NORMAN.
Moultrie, Ga., July 28, 1903.

It Must Come.

As inevitable as the changing seasons of the year is the change which comes to every woman. And just as one anticipates the changes of other seasons it is wise to anticipate this change of season and prepare for it. In this way the discomforts and disasters suffered by many women at the period of change can be avoided or overcome.

Dr. Pierce's Favorite Prescription, a medicine for every season of woman's life, will entirely meet the needs of women at this period of change. It cures the physical ills and relieves the mental anxiety and depression usually associated with this critical period. It tranquilizes the nerves, encourages the appetite and induces refreshing sleep.

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WHO CANNOT BE CURED.

Backed up by over a third of a century of remarkable and uniform cures, a record such as no other remedy for the diseases and weaknesses peculiar to women ever attained, the proprietors of Dr. Pierce's Favorite Prescription now feel fully warranted in offering to pay $500 in legal money of the United States, for any case of Leucorrhea, Female Weakness, Prolapsus, or Falling of Womb which they cannot cure. All they ask is a fair and reasonable trial of their means of cure.

J. S. Carlisle, Esq., of Manchester, Coffee Co., Tenn., writes: "I have been using your medicines for the last sixteen or eighteen years in my Poor-house. I am superintendent of the Coffee County Poor-house and Asylum combined. Your 'Favorite Prescription,' 'Golden Medical Discovery' and 'Pleasant Pellets' are the best medicines for the diseases for which they are recommended, that I ever used. They saved my wife's life at the time of 'change of life.' I have been recommending your medicine to many afflicted women and have also guaranteed that if it did not cure I would pay back the money spent for it. I have told our druggist that if the people came back and said Doctor Pierce's medicines did not give satisfaction, to *give them back their money and charge it to me.* I have not once been called upon to refund. I have never found anything to equal the 'Favorite Prescription' for diseases of women."

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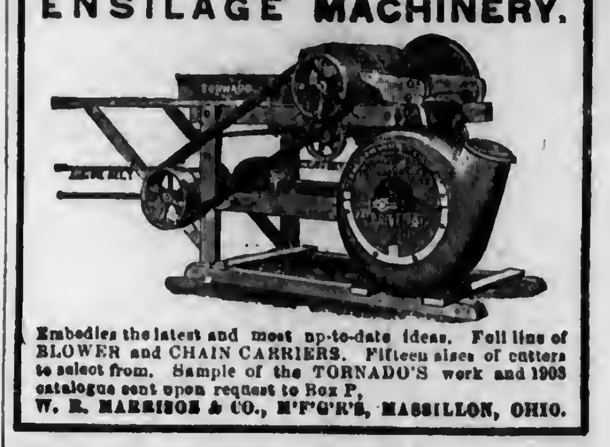

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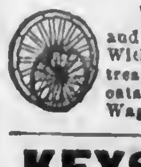

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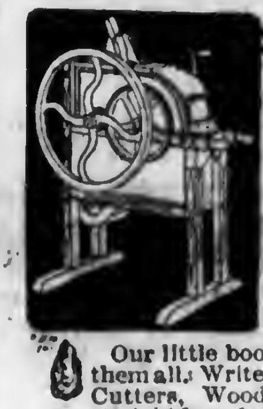

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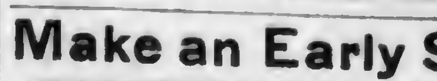

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THE PRACTICAL FARMER.

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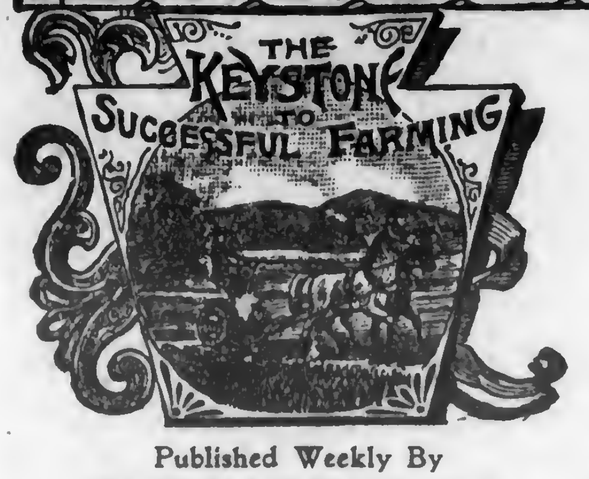
THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Taking Care of the Carriages.

The writer has just been varnishing a phaeton and surrey. The paint was in pretty good shape, except on the rims. Years ago the woodwork was striped, but he does not care particularly to have it so now. What he wanted was to preserve the wood, leather, etc., and make them look well. A coat of varnish once in about two years answers these purposes, although this depends somewhat on how much the buggy is used and how it is cared for during the time. If you are intending to varnish a buggy the first thing to do is to wash it thoroughly and let it dry at least 24 hours in hot weather. Then use some fine sandpaper to rub off any places that are not entirely smooth. Take the body off the running gear and place it on barrels, or boxes, so it will be convenient to get at. Raise the axle so you can turn a wheel while sandpapering and also while varnishing it. When through sandpapering wipe off all the dust. Do not attempt to put on varnish except when the temperature is up to 75 or 80 degrees, or more, and the night before was warm, so the wood and iron have about the temperature of the air. The varnish also should be kept warm over night, and the can be placed in the sun in the morning so it will be well warmed through. Do the varnishing in the shade, after the air is well warmed up. If you get through by one or two o'clock the varnish should set so you can run the buggy under cover by night. With care we put the body on our surrey the first night and drew it all in the tool house. A little gasoline will clean the oil off from the ends of the hubs. Get the best varnish. The small amount you will need will not cost very much. I paid $3 for a 2-quart can this year and had a little left after fixing up the phaeton and large surrey. I would not want to use any varnish costing less than $4 to $5. Cheap varnishes crack and do not wear as well. And right here is one advantage of doing the work yourself. Good varnish costs money, and few painters, even if they use the best, will put on more than half what I did, when they are doing the work by the job. As a result, it does not look as well or wear as long. It is this as much as the money saved that makes me do our varnishing. However, I was only about a day altogether putting the varnish on the two buggies. It would have cost probably $12 to have hired the work done at a carriage shop. So I saved nearly $9 in money by one day's work That is not bad.

Now, as has been said, I do not care for striping. And so I put a little quick-drying black (ground in varnish, not oil) right into the varnish and stir it in thoroughly. This freshens up the paint. A one-pound can, costing 40 cents, will be enough for three buggies. I do not paint the rims extra, as any paint will wear off in mud, but just add a little more black when varnishing them and take pains to put on enough to cover well. Go over the rims a second time as soon as you have finished once, if necessary. I once took our surrey to Akron to a first-class shop (?) and paid $15 for having it painted and varnished, and it certainly did not look any better than it does now and it did not begin to wear as it will with the more than a quart of choice varnish that I put on it. And it took me twice as long to go to Akron with it, and after it, as it did to do the varnishing. Varnish should be put on just as it comes, without being thinned. In a warm day, and with carriage and varnish warm, anyone who is at all used to handling a brush can do this fairly well. One has to be quick and finish up as he goes along. You will not be likely to have much trouble except on the sides of box, or wherever there is a large, smooth surface. It will take a little experience to get a good coat on such places and not have any spots "run," or be doubled. It would be well to thin the varnish considerably with turpentine when you are going over the first buggy and learning, perhaps. It will not wear as well, of course, as you will not get as much on, but a novice will handle it better. I write from experience. I did this way 40 years ago when a boy. And now about the cover of a canopy top, the leather dash, etc. There are preparations that you can buy to put on leather, but I do not use them. I varnish the canopy tops of our buggies and the dashes, and have always done this way. They look well and it wears all right. I would not varnish side curtains and aprons, as on these it would crack. Put your brush in water the moment you stop using it, when you have to quit in the middle of a job. When you are through for good, clean the brush in kerosene oil, thoroughly. Buy a good varnish brush and then take care of it as suggested. I presume I have had the same brush more than ten years and it is still almost as good as ever. By the way, I varnished the linoleum on dining room and kitchen floors not long ago, using about a gallon of varnish. It needs a coat about once in two years. With this care it will wear and look nicely for a long time. The varnish prevents your wearing off the figures that are painted on. In the same way the varnish wears on a buggy and saves the paint. It is not by any means a matter of looks entirely. Cheaper varnish will do for linoleum, say such as one can get for about $2.50 a gallon. When the varnish on your buggy gets dry dash cold water all over it and wipe dry quickly with chamois skin or soft sponge. Do this work in the shade and do not let any drops dry on. This hardens the varnish. After using the buggy the first two or three times, if dust gets on it, another washing with cold water will help you to get a hard, glossy surface that will wear and look well a long time. Mud should not be allowed to dry on the varnish for a time, if you can prevent it. But remember that dust is about as bad as mud. As the writer looks back over his life it seems to him as though he had got ahead nearly as much by taking good care of everything as by making money. Perhaps he has carried this almost too far sometimes. Things are to use to make life more enjoyable. It is good business policy, certainly, to take care of them as well as you reasonably can, consistently with this use. Plenty of good varnish used in time will save more costly painting, perhaps double the life of a carriage and at the same time it looks better. You will feel more as though a farmer was somebody when you are taking a ride.

Hay from Second Growth Clover.—Edwin Hunt, McBrides, Mich., writes, in substance, as follows: "Is hay made from the second growth of June clover good for horses and cows? I have a heavy piece of clover and the second growth will be worth much more to me for hay than for seed, considering the cost of hulling, if the hay is all right. But some people tell me that second crop hay will make horses slobber so badly that it is unfit to feed to them." As a rule, I would as soon have the hay made from the second growth of clover as that from the first growth. If it is cut when in full bloom and nicely cured there can be no better clover hay, as a rule. The crop grows quickly in hot weather. It is tender, nutritious and palatable when nicely cured. This from much actual experience. If allowed to stand until ripe it will not be very good, of course. It is true, however, that it sometimes makes horses slobber. And I have known the first crop to do this, but it is very rarely the case. And I have also known second crop clover hay to make cattle slobber badly. I have seen the saliva running almost in streams from their mouths. But this has never occurred on our place but once. Other years it was all right for young cattle and cows. Horses seem to be troubled more readily. This slobbering may be caused by certain weeds in the clover, but I am inclined to think the more serious cause is in the nature of a fungus growth on the clover itself. Now, if I wanted to cut the clover for hay, that is, if it would be worth more to me for hay than for seed, I should certainly do it and take the chances. If it makes trouble when fed to the horses, never mind; feed it to the cows or young stock. The chances of its causing them to slobber are very slim. It is splendid feed for cows and growing animals. Another point; observing people have noticed that a horse will in time get used to clover hay that makes him slobber at first, so that he will do pretty well, sometimes. While I cannot guarantee you perfect safety in taking the above advice, it is what I should do myself, the chance of failure is so slim.

Subduing Quack Grass.—J. J. Koch, City Button Works, New York, asks for the best method of getting rid of this pest. The treatment varies some in different sections, and one farmer noted for doing thorough work tells me there is no such thing as getting entirely rid of it; that is, if one lets up for a time it will soon take the lead again. However, it may be so kept down as to do no harm, practically. The treatment in general is to plow in the fall rather shallow so the bulk of the roots are exposed on the surface. Then cut them up so frequently with a disk harrow that they cannot grow at all. In the spring, as soon as dry enough, everlastingly keep at them, with sharp disk harrow, going alternately lengthwise and crosswise, so no growth whatever can be made. This, with the action of the winter, will pretty thoroughly discourage the roots. Keep up the tillage until the day of sowing some thickgrowing crop. This may be Northern peas and oats, Hungarian grass, or whatever is best suited to the locality. One is likely to get paid for this large amount of tillage in increased crops. It may be best to follow the same line of treatment the second year, or perhaps corn, with clean culture, may answer instead of the thick sown crop. But do not omit the working of the land in the fall and spring. In the latitude of Northern Ohio I could discourage quack terribly with the tillage and Hungarian sowed about June 1st, say one bushel of seed per acre. Further north I have known the same results obtained with a heavy crop of peas and oats.

Health Hints.—Do You Take a Cool Bath? Twenty Minutes of Care of One's Self.—A letter from Stanton, Pa., written by one of our family, tells of unusual exemption from colds last winter. The writer says he sponged himself off with cold water as soon as he got up in the morning, and followed with a brisk rubbing down with dry towels, thus putting in practice some of the teachings of these columns. This is an excellent practice the year around. It would be still better if one would rub himself all over with flesh brushes before the bath. You can get a pair of good ones, one for each hand, for about $2.50. They are something like horse brushes, only softer. For the back you can use a coarse towel, drawing it back and forth. Then take a warm bath at least once a week, using pure soap and rinsing off with cool water. All this will help much about keeping the skin in a healthy, active condition, able to stand any ordinary chill and react after it. Now is an excellent time to start taking cool baths. Then as cold weather comes on you will not notice the difference. Start with care and gradually increase the coldness of the water as you get accustomed to it. This cool bath will be found to be a fine tonic, if not over done. You will soon learn to enjoy it decidedly. I write from many years of experience. Never tax your resistive powers beyond the point that after rubbing dry you will feel warm and exhilarated and like doing the same thing over; but do not.

Another letter is from a farmer's wife, who is not over strong and well, and who has all the work she can do and little time to devote to the care of herself. She asks what she can do in 15 or 20 minutes a day, and without spending any money, that will help her the most. As soon as you get up in the morning rub yourself all over with a coarse towel until you feel quite warm. This will take from three to five minutes. Then sponge the body all over with cool water. If you have no sponge use a towel. It is about as good, and better in that you can wet all of the back with it. It is nice to have a bath tub, but you can get along without by standing on a rubber blanket, or on an old piece of carpet. The writer carries a rubber cloth with him winters, to use for this purpose. Follow the bathing with brisk rubbing with a dry towel, until you feel entirely warm. The bathing and rubbing can be done in ten minutes. Next, stand before a mirror and draw long, full breaths, expanding the chest to the utmost and throwing the shoulders back. Have a watch hung so you can see it readily, and be ten seconds gradually filling the lungs to their utmost capacity and getting the shoulders back just as far as you can. Then instantly begin to let the air go out of the lungs and the shoulders come back into a natural position. Be ten seconds doing this also; three breaths a minute for five minutes. See that the air is pure when you are taking these long breaths. You can do all this in about twenty minutes. Then if you have fresh air to breathe at all times, and dress so you can breathe naturally and fully, and eat only plain, wholesome food, you will notice a decided difference in your feelings after a time. I cannot say just when; it may be months. It is not likely that you will feel greatly improved suddenly at any one time, but work on faithfully and some day the thought will come to your mind, "Why, how much better my general health is than it used to be." The change will be imperceptible from day to day. Throw cares aside and learn to enjoy the bath and rubbing, not doing it as though you thought you must. Never work to the limit of utter exhaustion; that is suicide. Stop when your strength begins to wane, and rest a little. I know that even this little care of yourself will help you. Be faithful and persistent, with no doubt as to the outcome.

T. B. Terry.

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A Grass Report.

GEORGE M. CLARK.

I have just completed cutting my first crop of hay. Commenced July 6th, ending July 21st, 15 days. Last year, total, first crop was 64 tons 874 pounds of dry hay; this year, first crop was 55 tons 729 pounds, nine tons less than last year. The loss was due mostly to three causes: First, lack of intense cultivation before seeding of six acres in September, 1901, on account of cloud burst, which washed most all of the intensively cultivated soil off the field ten days before seeding. Second, a two-months drought in spring. Third, the fertilizer was spread six weeks without rain. These three cut the column down so that the average product was but 7,840 pounds, a little less than four tons per acre. The seven-eighths acre, seeded now 14 years, cutting twenty-six first and second crops before this year, a total of 104¾ tons. This year, first crop, cut 12,410 pounds, making the total product in 27 crops, one seeding, 14 years, 111 tons, with the second crop now growing. Last year the two crops were 8½ tons; this year they will exceed 9 tons. The average per acre this year on this field, first crop, is 7 tons 176 pounds, and on the five-eighths acre field adjoining, 7 tons 80 pounds. While the sum total is less, yet a portion of my field is heavier than ever before, notwithstanding my fertilizers lay bleaching six weeks in the sun without rain. Much has heretofore been said about the weight of my hay, whether put in the barn dry or otherwise, and also what green grass in drying would shrink. I have taken from several sections, five square feet of grass, and found the following results: 4 pounds 2 ounces, mostly all timothy, produced, when dry, 25½ ounces, or 13,638 pounds to the acre. Four pounds 5 ounces mostly all red top, when dry produced 20 ounces or 10,880 pounds to the acre. Four pounds 6 ounces timothy and red top mixed, 25 9-16 ounces, or 13,706 pounds to the acre. In another section mostly red top, 4¾ pounds, when dry, 25¾ ounces, or 14,021 pounds to the acre. Another section, 4 pounds 5 ounces, a little less red top, 25½ ounces, or 13,638 pounds to the acre. On another section 2 pounds mixed, when dry, 9 9-10 ounces, or 5,206 pounds to the acre. I have kept track of the weights of the hay on these several sections per acre and they made but a few pounds more to the acre when dried out than indicated by the samples.

The Director of the Connecticut Agricultural College wishes to have me save a few specimens of hay from my field to exhibit at the St. Louis Exposition in 1904, which I have done. I have no doubt, however, that many will be surprised at the height of the grass, judging from the many thousand letters that I have received in the last few years; many suppose that six tons of hay or more to the acre means tall, coarse grass, but it is exactly the reverse. It means a dense growth of fine grass, 500 to 600 spears to the square foot, 40 to 45 inches in height, will make 6 to 7 tons to the acre; every 6 inches in height of my grass containing 500 to 600 spears to the square foot will produce a ton of dry hay to the acre, and it will be as fine as silk. Intense cultivation and care is the only thing that will make big crops of hay. If you send to me, George M. Clark, a two-cent stamp, I will send you a grass circular that will tell you how 6 tons of dry hay to the acre can easily be made. I have written more than 20,000 letters in the last two years to tell my friends how. I have led the way, but am glad to now say that they are beating me; still the good work goes on. There has been an impression among farmers that this theory of intense cultivation and large hay crop matter, so often spoken of by me, was introduced for the sole purpose of benefiting the Cutaway Harrow Co. To all such, I wish to say that as early as 1872, as President and Mechanical Manager of the Higganum Mfg. Co., 20 years before the Cutaway Harrow Co. was ever thought of, the Higganum Mfg. Co. commenced the manufacture of drag plows, both regular and reversible, and I at the head of the mechanical department, made and completed over 400 different sizes and styles of drag plows. In the completion and test of these plow patterns I used 16 acres of this old rocky land to test the strength of these plows, as this field would be ample to test, and quick. We, the old Higganum Mfg. Co., made at one time over 80,000 drag plows per year, and in testing these new plows came the finding the intense cultivation; with the aid of such men as J. H. Hale, Mortimer Whitehead and other advanced agriculturists intense cultivation has been found during a long term of years, the science has been growing gradually, long before the Cutaway Harrow Co. was started or ever thought of; in fact, it has been but a few years that I have allowed my name to appear in connection with the business of the Cutaway Harrow Co., or any other company, for the reason that people would say: "All Clark is after is to push the Cutaways." It was not until Prof. Albert E. Cook, Professor of English in Yale College, who corrected the English in my grass circular, said that I should by all means allow my name to appear in connection with the Cutaway Harrow Co., that I allowed it to remain. Whether the Cutaway Harrow Co. lives or dies, they have come to stay.

Higganum, Conn.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Tall Plantain.—J. T. Kirby, Columbia, S. C.—"I enclose a weed which is new to this part of the country, and grows abundantly. Please let your botanist tell its name and whether it is good for stock or improves land." The plants are Plantago Aristata or tall plantain, a vile weed that has become common in the South of late years, probably introduced in clover seed or in Western hay, as it is a common weed on the Western prairies. The naturalizing of the weeds from other sections emphasizes the importance of sowing clean clover seed and keeping clear of hay from other sections. The plant is a worthless weed and should not be allowed to go to seed.

Where Timothy Failed.—S. W. Booth, Sturtevant, Pa.—"How shall I treat a meadow for a hay crop next season where timothy failed to catch by reason of poor seed. Fair crop of clover this season. Do not like to plow again in the spring, as it breaks the rotation. Will I succeed by harrowing in August and sowing timothy? The ground among the clover is quite thickly covered with a species of grass like the sample enclosed. Never saw it before. How would it do to plow after haying and sow to winter wheat and vetch? It is forage for the dairy I am after." We would plow the land and seed again to timothy this fall, if you must have timothy. But by far the best crop you can now get on it will be wheat and vetch. After plowing and preparing the land, sow the vetch broadcast about 25 to 30 pounds per acre. Then drill the wheat and the drilling will cover the vetch about right. We have tried mixing the seed in the drill, but the vetch seed is too heavy and runs out faster than the wheat. Cut the crop when in the milk and then sow cow peas on the land for another hay crop, which you will find will make the best of cow feed. Or if not wanted for hay you can have the best of a summer pasture with the peas if you allow them to get well developed but not in bloom first. The specimen you send is not a grass at all, but a member of the cyperus or sedge family, and if native to the land would seem to indicate a need of drainage.

Garden Fence. — Edgarda Williams, Corning, Cal., wishes to know the best kind of fence for a small garden to protect it from boys and dogs, especially boys. Something that they cannot climb over. The experience of the Editor in just such conditions may be useful. Our garden can hardly be called small, but it lies right along the tracks of two trunk railroad lines very much infested with tramps, dogs and boys. We have secured it with a fence of the following description: Good posts are set 8 feet apart and a base board of a foot plank at the bottom. Then the fence is made of the ordinary chicken wire with close meshes. At top of the posts nail pieces of 2x4 scantling 18 inches long pointing inwards at an angle of 45 degrees. On these stretch three strands of barbed wire six inches apart, and you have a fence that cannot be climbed over. The chicken wire is better than heavy wire fencing, for its slightness is its strength, since no foothold can be had on it. Then the barbed wire turned inward to the garden makes a puzzle for a monkey to surmount. No one has ever climbed our fence, and I do not think they will unless they cut through with wire cutters, which is not likely.

Sawdust Again. — Ira Rudolph, Ragland, Ky.—"I wish advice about sawdust for manure. I want to use it on clay hillsides, and can get it for the hauling a quarter of a mile. Am experimenting with a small patch of alfalfa. Have cut it back three times and now it is beginning to bloom. Must I cut it again? Will sow more this fall and will write us to success. Will the use of commercial fertilizers get land into a condition where you will have to continue its use? What brand will come nearest in composition to ashes, which have a fine effect on my land? I have tiled about seven acres now in corn, and want to sow wheat this fall and clover on the wheat. What must I do to be sure to get a stand of clover? Have stable manure enough for about one-half. Ashes act finely on this land." Let the sawdust alone. It will not pay you to haul it, and it may do harm rather than good. If you could burn it it would pay to use the ashes, but the oak sawdust is of no value. If the alfalfa is blooming we would clip it again for the seeding is a weakening process to the plant. Commercial fertilizers used merely to get a little more crop to sell off the land, will certainly decrease its crop-producing power Used in a judicious way for the development of the fertility of the soil through peas and clover and a good rotation of crops, there is nothing that will help the farmer more rapidly and cheaply in the improvement of his land than commercial fertilizers. The nearest approach to ashes will be the mixing of acid phosphate and muriate of potash in proportion of six parts of the first to one part of the latter material. Pay attention to the composition of the article and not to the "brand." Use on the wheat on that low ground 300 pounds per acre of the above mixture, and put your stable manure on the land that is to go in corn next spring.

Crimson Clover. — Land Plaster.—Ivan Steiner, Orrville, O.—"What is the best method for seeding crimson clover among corn at last working? What is the chemical analysis of land plaster, and can it be used to good advantage on land?" In sowing crimson clover among corn we would cultivate the corn flat and would follow the last cultivation with the clover while the land is fresh, and depend on the next shower covering the seed. Sow 15 pounds of seed per acre. Land plaster is sulphate of lime. Some samples are purer than others, for where the rock from which it is made is near the surface a very considerable portion exposed to the weather will get changed to a carbonate like air-slacked lime. A pure article of plaster will contain about 20.93 per cent. of lime and 46.51 per cent. of sulphuric acid. These are in combination, making

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IMPROVED DWARF ESSEX **RAPE** A foliage plant of the very highest value. It makes quick and large growth (about three feet) smothering out all weeds and objectionable grasses. It may also be plowed under as green manure. In six weeks from time of sowing, sheep, hogs or cattle can be turned on it. An acre of rape will pasture 12 to 15 sheep six to eight weeks. In the North it can be sown any time from May to Sept., but in the South it should not be sown until Sept. or Oct. for fall pasturage. It is perfectly hardy, notwithstanding drought and a sure cropper on all kinds of soil. Sow 5 lbs. to the acre broadcast, or 3 lbs. in drills. Packet, 10 cents; pound, 25 cents; 5 pounds, (enough for 1 acre) $1 by mail, postpaid. By express or freight, purchaser paying charges, 10 pounds, $1.00; 25 pounds, $2.00; 100 pounds, $7.00. **COW HORN TURNIP.** Long, white root, quick to mature. It is now sown mixed with Dwarf Essex Rape and the crop turned under for soiling, giving excellent results. Packet, 5 cts.; ounce, 10 cts.; ¼ pound, 15 cts.; pound, 50 cts., postpaid. By express, pound, 40 cents; 10 pounds, $3.50. WM. HENRY MAULE, 1711 Filbert St., Philadelphia.

the sulphate of lime. Whether it is good for land will depend on the character of the land. It is not a manure, but, like ordinary lime, is a re-agent for bringing into use matters already in the soil in an insoluble shape. In a soil abounding with insoluble potash, the plaster will have the effect, as one chemist puts it, of pushing out the potash. On land deficient in potash, plaster has little effect. The ordinary acid phosphate, now so largely used as a fertilizer, has, in addition to phosphoric acid, about 40 per cent. of plaster which is formed by the process of dissolving the phosphatic rock with sulphuric acid. The dissolving makes a large portion of the phosphoric acid soluble and at the same time the sulphuric acid unites with the lime in the rock and forms the sulphate of lime. Used with the idea that it is a manure, plaster nor lime will ever make a poor soil rich. But both are valuable agents in the improvement of the soil when intelligently used.

Pasture in Piedmont N. C. — Subscriber, Winston-Salem, N. C.—"I have a north slope field that I want to make into a permanent pasture. Am thinking of sowing orchard grass and clover. Would you sow this fall? Land now in corn. If this fall, how should the land be prepared, what fertilizer and when to sow? Should winter oats be sown with it?" We would prefer, for a permanent pasture, to sow a mixture of grasses rather than one. Orchard grass is a good pasture grass and well suited to your lands in Forsyth Co. But it is prone to grow in bunches or stools like broom sedge, and we need to associate with it a closer sodding grass. We would advise you to sow, per acre, 10 pounds of orchard grass, 5 pounds of red top and 10 pounds of poa compressa, called by some, Canadian or English Blue grass. This last is better suited to your soil than the Kentucky blue grass, and will finally make the sod, as it spreads in a similar manner to Bermuda. Then a few pounds of clover seed sown after the grass mixture will help the beginning of the pasture. Cut the corn and cure it in shocks as soon as well glazed. After the corn is out of the way plow the ground well and prepare it by a thorough harrowing, going over until perfectly fine with the cutaway harrow. Sow the seed in October if the weather is seasonable. If not, wait until there is plenty of rain to moisten the ground. We would prefer to sow the grass without oats or any other grain crop. After sowing the grass seed scatter the clover and then harrow lightly with a smoothing harrow, and if the land is comparatively level, roll. But if inclined to wash, roll first and then run the harrow. What fertilizer will be needed will depend on the condition and character of the soil. We would assume that on your soil all you will need is a liberal dressing of acid phosphate. Then, if you get a good stand, the next spring after the grass starts to grow give it a dressing of nitrate of soda, 25 pounds per acre, and two weeks after repeat this dressing, always applying the nitrate when the grass is dry to prevent scalding.

N. C. Bulletins.—A number of correspondents ask for copies of Bulletins Nos. 182 and 183 of the North Carolina Station. The Director informs us that the demand for these bulletins from farmers in the State is so large that he is obliged to decline sending them to other States, as the supply is nearly exhausted. Mr. Umholtz, of Arkansas, writes in regard to what we said in Bulletin No. 182 about cutting out the borers from apple trees in winter, he thinks a poor plan, as by that time they have done over one-half the damage they will do. He examines the trees in August and September, as soon as he can see where they are at work, and again in October and several times before winter, and again in early spring. The work on insects in Bulletin No. 182 was by the State Entomologist, and we assume that he is an adept in the work. But Mr. Umholtz's suggestions seem valuable and we are glad to give them. He says that it is an error to say that the borers only attack neglected trees, for he has seen them attack the most thrifty ones. Mr. Umholtz says further, "I know that the P. F. is the best farm paper published, yet I would like to see another addition made. That is a page, or part of one devoted to insects and birds, describing them, with illustrations, telling their manner of living and breeding, so that farmers and fruit growers would know which to destroy and which are beneficial. Not giving scientific classification and Latin names, but common ones. I have several works on entomology but none are worth anything for practical use. When I was examined for teacher my certificate showed 100 per cent. on entomology, but when I went to farming and fruit growing all my knowledge of insects, except as to their three stages, was of no practical value. Such a department in the P. F. would be of great educational value to the young people." Our friend's suggestions are very valuable, and we are hoping to see the time when we can enlarge the paper and include this and other instructive matters. The Editor will be glad to give just such matter. But with the various departments that now occupy the space it is hard to add more until the patronage of the paper warrants the increase in pages. Now if Mr. Umholtz and all others who want to have the paper enlarged and made more educational and instructive will go heartily to work to increase the circulation until we get to the point where these things can have room, they will be doing not only themselves a favor, but aiding the proprietors to do more. There is no farm paper that sticks more closely to its text as an educational journal than the P. F., and we are anxious to increase its value in this respect. One additional subscriber sent by each one now on the list will put the paper where we will be able to make great improvements.

Alfalfa in North Carolina. — J. P. Burton, Alpha, N. C.—"I have a piece of land with a hollow in the middle. Slopes to northeast and southwest. Which place is best for an alfalfa patch? Land is red clay. Where can I get the seed, and who in North Carolina is growing alfalfa? Had I better sow in fall or spring, broadcast or in rows? Near me a man has sown some in a wet branch bottom. Do not think he reads the P. F. or he would know better. Does it pay to subsoil red clay land, top and bottom nearly the same?" The northeast slope, we would assume, will be best for the alfalfa patch. Prepare the land well. It will pay you to subsoil it, too, and to subsoil any of our upland red clay in the South. Sow 25 pounds of seed per acre broadcast. You can get the seed from Wm. Henry Maule, 1711 Filbert St., Philadelphia, Pa. Harrow lightly with a smoothing harrow after sowing the seed, which should be sown about the last of August or very early in September. If you get a stand, and the weeds in the fall threaten to get ahead of it, mow them off with the hay mower. Give the land about 300 pounds per acre of acid phosphate and muriate of potash mixed, five parts of the first to one of the latter, and harrow in when preparing the land. In the spring give the alfalfa a top dressing of lime at rate of ten bushels of freshly slacked lime per acre. Mow the hay as soon as the blossoms begin to show and you can probably get two crops the first season and thereafter three. But mow it over the first summer two or three times, even if not large enough for hay, as that will strengthen the roots. Your neighbor had better have sent a dollar to the P. F. and saved an expensive experience on a wet bottom. You had better suggest to him that the paper will pay him for the reading. Col. J. S. Carr, Durham, N. C., is a large grower of alfalfa.

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"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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Fanning Mills.—Here are some queries to every reader of the P. F. Do you own a fanning mill? Are you thinking of getting one? What kind do you expect to get? Why should every farmer own a mill? We want information from every reader on the above questions. Answer these questions on a postal and send it to the publishers of The Practical Farmer and we will send you a beautiful illustrated booklet on the fanning mill question absolutely free. Send now.

Hay Presses.—The advertisement of the ever popular Eli Hay Presses, manufactured by the Collins Plow Co., 1107 Hampshire St., Quincy, Ill., is running in our columns. Our readers cannot help but be familiar with these famous presses. As made today they are the result of many years experience in hay press manufacture. A feature of the No. 1 continuous travel two-horse press, which perhaps has the widest use of any, is the immense pressure applied to the hay for the power used, the manufacturer stating it as 65 to 1 or concretely, a horse draft of 500 pounds exerts a pressure of upwards of 30,000 pounds. This explains the solid, compact bales for which this press is noted. This, with their uniform shapeliness, gives the Eli product a preference in the market, receiving also the favor of shippers who are able to get the maximum amount in the car. The Elis are strong and durable machines, have large feed openings and do rapid work. Write for catalogue, mentioning the P. F.

Pin Your Faith to the **BUCKEYE** Combined Grain and Fertilizer Hoe Drill. A well-balanced, light-draft machine with no neck weight even when pressure is on. The strongest, most practical drill on the market. Fitted with the famous Buckeye non-corrosive glass fertilizer distributer, which will not rust. Has all the well-known Buckeye points of merit, strength to last for years, ease of draft to save the horses, perfected working parts for perfect planting and requiring least repairs. Double run force grain feed will not skip, choke or bunch; cone gear for change of quantity. Examine the Buckeye line of implements at your dealer's or write for full information and circulars. P. P. MAST & CO., 11 Canal St., Springfield, O.

Does Saving **ONE or TWO MEN** At the Cutter Mean Anything in ensilage cutting time? Self Feed on "Ohio" cutters does that and more, and increases capacity 33⅓%. **1903 "OHIO" Blower Elevators** solve the Blower problem. They successfully elevate ensilage into silos up to any height, as demonstrated by abundant proof in 1903 catalogue. 10 and 12 H. P. Engines drive Nos. 13, 16, 18 and 19 Cutters with blowers, and all other sizes "Ohio" Ensilage Cutters. In capacity "Ohio" Cutters lead; 10 to 30 tons per hour. 1903 Shredder Blades (patent applied for) are interchangeable with knives, all sizes. They put corn stalks into best condition for feed, running at normal speed. *Our absolute guarantee goes with every machine. Made by* The Silver Mfg. Co., Salem, Ohio. *Established 1854.*

ARMOUR'S BLOOD MEAL Cures Scours in Calves. First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhea of all animals. PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles. A Potent Food for Work Horses, Dairy Cows, Poultry. Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases. THE ARMOUR FERTILIZER WORKS, Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

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THERE are many instances where corn stover has been scientifically tested and found to actually contain more nutriment than timothy hay. Stock relish the corn stover; then why not save this part of your crop, and feed your cattle; and, if need be, sell your hay.

O. H. BROWNING, General Agent for McCormick Machines, Philadelphia, Pa.

Live Stock and Dairy.

If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Growing Silage Crops.

PROF. A. M. SOULE.

A great variety of crops may be used to advantage for silage. The king of silage crops is Indian corn, though sorghum is a close second. Cow peas, soy beans and velvet beans can be combined with either or both of these crops to advantage when grown for silage purposes, and thus the protein content of the silage can be increased by the use of a leguminous crop. The balancing up of corn and sorghum is an important matter, as it lessens the amount of concentrates necessary to feed to either beef or dairy cattle, while rather increasing the bulk of the crops and certainly not detracting from their maturing perfectly and making as large a yield as if grown by themselves.

A great deal of speculation has been indulged in as to the best methods of growing these crops for silage production. The following methods have been used successfully on the Station farm, where large yields have been obtained for several years past. Doubtless the methods used here will not be applicable to all sections of the country, but the principle will be the same everywhere and must be modified to suit local conditions and the crops that can be produced in the several sections.

Corn for silage purposes is best grown in drills 3 to 3½ feet apart and 8 inches to one foot apart in the row. Some will feel that this is too close and that the largest stalk will not be obtained by planting so closely. It is not necessary nor desirable to secure the largest possible stalk in a silage crop, for, as a rule, the larger and coarser the stalk the more crude fibre it contains and hence the less digestible it becomes. By planting close together though, the stalks will not be so large, the number produced on an acre will be much greater, and hence the total yield of the crop increased. Instead of having one large, well developed ear on each stalk, there will be a larger number of medium sized ears, but which in the aggregate will yield about as much corn per acre as a smaller number of larger ears.

A leafy variety of corn should be selected for silage purposes and one that is inclined to produce two medium sized ears rather than one large one. Select a variety producing a stalk of medium height, but of a stocky character. It is very important to exercise care in selecting the variety, for a weak stalked corn blows over and breaks down and thus it is very difficult to gather it with the corn harvester, and when the corn breaks down badly it is necessary to go through the field and cut all the broken stalks by hand after the machine has gone over the ground once, thus practically doubling the labor. Care should also be exercised in selecting a variety that does not produce too many suckers, as these are frequently lost in cutting with the binder and they sap the strength and vigor of the main stalk.

It is a great advantage to select a medium sized variety so close planting can be successfully practiced. For example, an acre of land is 66 feet wide and 660 feet long. By planting in rows 3 feet apart, 22 rows per acre will be obtained. If it were necessary to plant 3½ feet apart one would have 18 rows, and if planted 4 feet apart, 16 rows. Where one has 20 to 30 or 40 acres in silage there would be a loss of a great many rows by planting 3½ or 4 feet apart, so much so, in fact, as to reduce the total yield obtained very considerably. In the North the method of planting outlined is now generally practiced, though many persons in the South doubtless believe it impossible to cultivate corn even for silage as suggested. There is nothing in their contention, however, as the crop has been grown under the conditions outlined at the Station farm for several years past with eminent success and with a gradually increasing yield of silage. Where close planting is practiced the land must of necessity receive better cultivation and the supplies of plant food, whether in the form of farmyard manure or artificial fertilizers, must be more liberal, though never more than 150 pounds of phosphates and potash have been used per acre on the Station farm on field crops. Some of the best varieties used for silage production have been Hickory King, Virginia Ensilage, Cocke's Prolific and Huffman. The varieties should be chosen with regard to local conditions, small varieties being grown on the higher lands and the larger, stronger varieties on the richer lowlands. The method of planting sorghum for silage is practically the same as for corn. Many varieties may be used, but for all those tried so far Red Head has proven the most satisfactory, both as to strength of stalk and to the yield obtained. It is sometimes difficult to obtain pure seed of this variety. Early amber is also a very good variety, though not yielding quite so well as Red Head, while Collier is somewhat coarse and pithy.

Corn intended for silage is best planted on fall plowed land as early seeding is an important factor with corn, though in the South it can frequently be planted after a crop of wheat or other winter-growing cereal has come off the land, providing the land is rich enough to withstand the effects of so exhaustive a rotation. Sorghum could in nearly all instances be planted after a winter cereal crop if it were desirable to do so, though in the North it would be necessary to plant it earlier as the period of actual growth is shorter there and the frosts fall early in the autumn. It is not advisable where a very intensive system of farming is followed to bring sorghum and corn after a cereal crop as it is too exhaustive to the soil, and one is not apt to obtain such large yields as where the land is fall plowed, and if a heavy clay, subsoiled, so these vigorous growing crops will be able to make a large root development in the very short growing period. If these crops can be planted on land that has previously grown in peas, clover or other leguminous crops, or even a grass sod, they will give the best yields as they both love a soil containing a good supply of vegetable matter which the plowing under of the stubble of a leguminous crop insures. As a rule sorghum will outyield corn for silage purposes. It also has an advantage in that it can be planted later, and sorghum silage if properly made is just as palatable and seems to be quite as nutritious as corn.

These are the standard silage crops, their one defect being the preponderance of carbohydrates which they produce. If some means could be devised by which a leguminous crop could be combined with them the objection in question would be successfully overcome. Wherever cow peas will grow the difficulty can be obviated by planting them with these crops at the time of seeding. The variety of cow peas to use will be determined somewhat by the locality, though the Whippoorwill and Lady are probably two of the best varieties that can be used, as they seem to be better climbers than any that have hitherto been found. The Clay is objectionable in that it spreads over the ground and hence it is not cut by the harvester. The Black and Unknown do not climb very well, though the latter sometimes grows very vigorously and spreads across the rows, causing the top of the crop to tangle, which makes trouble for the harvester. The Whippoorwill rarely does this, though the Lady is possibly superior to the Whippoorwill in its ability to climb readily up the stalks of corn and sorghum. Whenever a two-horse corn planter is used fill one hopper with peas and one with sorghum or corn, as the case may be. Plant two rows, say 3 feet apart, and by reversing and going back over the same ground the peas and sorghum or corn will be put down together. The aim should be to plant the peas about 8 inches apart in the row. The sorghum should be planted much thicker than the corn, say a stalk every three or four inches.

The amount of sorghum required will vary from 6 to 10 pounds, depending on the size of the seed used. Lady and Whippoorwill peas will seed at the same rate. A peck of seed per acre will generally be sufficient, while from 3 to 6 quarts of corn will ordinarily be used. When peas are planted with corn or sorghum 15 to 25 per cent. of the silage crop will be constituted of peas in a favorable season, and strange as it may seem, the close planting of the corn and sorghum favor the climbing of the peas.

Velvet beans might also be used in place of peas, though they are so watery that they are not nearly so satisfactory as the latter, except in regions much further south. They climb vigorously, however, which is a strong point in their favor. Soy beans, as a rule, had best be sown by themselves in drills 18 to 24 inches apart and then alternate loads of beans and sorghum or corn put in the silo. In our experience growing the two together has not proven to be a very satisfactory method of handling the crop. Soy beans make a strong, vigorous growth and will yield from 10 to 12 tons of silage per acre and when combined with sorghum or corn in about equal parts produce a silage of the finest quality. Soy beans should be planted before the corn, as they take much longer to mature, from 120 to 140 days, whereas, corn for silage purposes takes from 100 to 120 days. They will also need to be planted a long time in advance of sorghum, as much as from 30 to 50 days. Soy beans by themselves have not made the best quality of silage, in our experience, and in our judgment it is much better to combine them with one of the crops mentioned rather than to put them up by themselves. The same is also true of cow peas. Cow peas can not be grown by themselves and put in the silo as readily as soy beans because the vines run and tangle so badly that it is almost impossible to separate them and thus they are difficult to handle. So it is much better to combine the peas directly with the growing crop. By paying attention to these matters the quality and yield of the silage obtained can be greatly increased.

Tennessee Experiment Station.

"Dog-Days" and Cream Separator Fakirs

Every "dog-day" season one of our old time "tin-can" creamer would-be competitors, of late years, making a separator of which it is said that its only good feature is its sacrilegiously taken name—the "U. S."—, is seized with a new advertising spasm of some kind and a desire to buy newspaper space for use in imaginary self-comparison of itself with the DE LAVAL, in which new fake it usually grows worse from week to week until the DE LAVAL stoops to notice its fairy stories.

First it was so-called Experiment Station fake "skim-milk records;" then a false representation of a Paris Exposition award and a still more false one of the DE LAVAL machines not having received the Grand Prize; then a garbled report of the Buffalo Exposition skim-milk tests and much lying about the awards made there. And so it has gone for some years.

Now the latest fit of rabies of which this disciple of Ananias is the victim is brazenly advertising that his machine can't skim cool milk because quickly clogging up with it, while he pleads that it is wickedly cruel of the DE LAVAL agents to remind buyers of separators that there are frequent occasions when this is both convenient and necessary, and that the practical separator must be capable of it, though only the DE LAVAL is with good results.

Those who may read the advertisements of our envious little "teaser" should always keep these fundamental facts in mind: The DE LAVAL machines received the only regular Award at Chicago, the only Grand Prize at Paris, and the only Gold Medal at Buffalo. They have done the best work and are held to be the best separators in every Experiment Station in Europe and America. They are used by 98 per cent. of the experienced creamery users of separators throughout the world—and their sales are ten times all other makes combined, while with a 50 per cent. greater output every year for twenty years there has never been a year yet in which the DE LAVAL manufacturers could meet the demand upon them.

This is a record of stone-wall facts which any of our pigmy would-be competitors are perfectly welcome to stand up and measure themselves alongside or butt their shortcomings into whenever they may be foolish enough to attempt it.

If any reader may not understand why a DE LAVAL SEPARATOR is as much better than the best of its imitators and followers are better than gravity systems a DE LAVAL catalogue to be had for the asking will make the reasons plain.

The DeLaval Separator Co.

Randolph & Canal Sts., CHICAGO.
1213 Filbert Street, PHILADELPHIA.
9-11 Drumm St., SAN FRANCISCO.

General Offices: 74 Cortlandt Street, NEW YORK.

121 Youville Square, MONTREAL.
75 & 77 York Street, TORONTO.
248 McDermot Avenue WINNIPEG.

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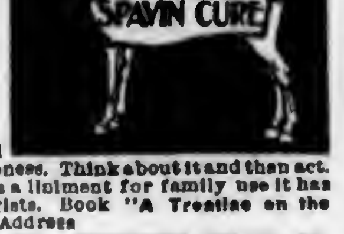
You certainly cannot afford to have horses lamed from Spavin, Ring Bone, Splint, Curb, when they may be cured by simply using

Kendall's Spavin Cure.



It cures all these and all other forms of lameness. Think about it and then act. Price $1; 6 for $5. As a liniment for family use it has no equal. All druggists. Book "A Treatise on the Horse" mailed free. Address DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

TUTTLE'S ELIXIR cures lameness, curbs, splints, contracted cord, thrush, etc., in horses. 100-page book, "Veterinary Experience" free. Dr. S. A. Tuttle, 28 Beverly St., Boston, Mass.

GOMBAULT'S CAUSTIC BALSAM. Is an external remedy. Absolutely reliable. The Lawrence Williams Co., Cleveland, Ohio.

Young's Anti-Abortion Food for Cows is the recognized remedy by the profession in this part of the State, and is rapidly becoming known as the invaluable agent of relief all over United States. After a trial it is its own recommendation. Write for particulars. Young's Food Co., Media, Pa.

JUST OUT D. M. MAGIE CO'S Big Four Circular. Magie Poland China Swine. Established over half a century. D. M. MAGIE CO., Oxford, O.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

Stock Queries.

Heifer Query.—Will you please advise me what to do with a thoroughbred Jersey heifer that I am raising? She was a year old on July 7th; has been in heat several times, but I think her most too small to have served. The last few days she has swelled in her udder almost like a cow with calf. I am sure she is not with calf. Her udder seems full; is not hard or swollen. She has very good pasture, which perhaps causes it. Is there any danger of her losing teats? Should she be milked? J. F. DENLINGER.
Gap, Pa.

The case of your Jersey heifer is one not often met with, though the udders of heifers from very heavy milkers sometimes exhibit the phenomenon of which you speak. It is considered advisable by some breeders to handle the udder of the heifer almost daily for the purpose of developing the milk-giving instinct as soon as possible and causing a flow of blood to the udder parts so they will grow and develop most rapidly, but there would be no need for that in this instance. On the other hand, it would be advisable to milk out the udder should any milk form there for fear of inflammation or caking or other complications that might arise from the same. Your heifer is too young and immature to breed to the best advantage. Better wait until eighteen months at least. By caring for the udder, as suggested, you should be able to avoid any trouble, and judging from the unnatural development of the milk-producing functions, age considered, there is every reason to expect that the heifer will make a very fine cow.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Verminous Bronchitis.—Can you tell me what is the matter with my two pigs? They are nine weeks old, large for their age, and healthy looking. Had run with the sow in a woods pasture. When I brought them home I noticed their bowels were loose and the excretions of a dark color and smelled very foul. I put them in a pen in a shady place. Gave them plenty of fresh water to drink; had bran and sour milk to eat three times a day, and green stuff from the garden during the day. Their bowels got all right; at least they were not loose, but they were never hearty, leaving a part of their feed if I gave them as much as a quart. Day before yesterday I noticed them coughing some and getting their breath fast; as it is very dry here I thought their pen was too dry and threw a bucketful of water in the pen, some getting on the pigs; since then they have grown steadily worse, panting and coughing by turns. At first the cough was hacking, now it is as though they had cold and it was getting loose. No discharge from mouth or nose; eyes seem natural; don't seem too hot; don't wheeze; just pant like something that has been run hard. Had very cool weather for the last week. Turned them out yesterday on green grass, gave them a dose of epsom salts at noon yesterday. They ate a little grass; they seem hearty this morning, but their breath seems shorter. I greased their lungs with turpentine and lard. CALVIN HAYNES.
Newton, N. C.

We suspect that the cough is due to worms in the windpipe and lungs, and this disease under title of "verminous bronchitis," has been described recently in this department of the P. F. See answer referred to and meanwhile keep pigs on grass, and in addition feed well on nutritious food.

Callous.—Cough.—My driving horse a 5-year-old, fell in the lot and cut a gash about an inch long up and down, or rather angling, back about 15 degrees at the top, on the bone three or four inches above the outside of the ankle of the left hind leg. This occurred about a month or five weeks ago. After a few days it mattered, which run down back and under ankle, causing something similar to grease heel, besides the sore which caused the leg below hock joint to swell and stay swelled until sore was about healed. I used salt water and some liniment and vaseline and the healing is all right, but the leg swells at times, or rather is swelled most of the time, and the cut, although healed, leaves a lump or knot. 2. We have a mare, driver, with three-months-old cold, that coughs and in the strain passes wind, although seems all right otherwise. There is what some call distemper, in a very mild form, about.
Centerville, Ind. A. M. THREEWITS.

1. Clip hair from part and blister with a mixture of one drachm each of powdered cantharides and biniodide of mecury in an ounce of lard. See directions for blistering in back numbers of the paper. Give one drachm of iodide of mercury night and morning in a little water. Stop when the eyes commence discharging. 2. Wet all food and give half an ounce of Fowler's solution of arsenic, night and morning. When cough stops discontinue arsenic gradually.

Deafness.—My driving horse has become deaf from the noise on the 4th of July. Can there be anything done for the horse? He had very keen hearing before.
Greenville, O. H. H. TILMAN.

It may help him if you will clip hair from poll of head and blister with ointment so often advised here. Also give him a drachm of iodide of potash three times a day for a week Please report how this treatment succeeds

Farcy.—Please advise me how to treat farcy buds. The subject is a 4-year-old gelding; the buds are on the left front leg; from the knee to the pastern the leg is swelled and he trots lame. About two months since I first noticed it. There is a discharge of pus from the buds. JACOB FALLER.
Fryburg, Va.

A horse afflicted with farcy should be shot, as the disease is practically glanders, and incurable. In most States there is a law dealing with such diseases and the State Veterinarian should therefore be called in to decide if the disease is really farcy.

Bloody Urine.—On July 12 I wrote you asking you to please answer through the columns of the P. F. and give a preventive, if not a cure, for the bloody and dry murrain. I read answer from you today, asking full description of the symptoms, which are as follows: We turn the cow out in the morning apparently all O. K.; she comes up in the evening, although she may give three gallons of milk per day, but the first symptoms are that she does not give more than one pint of milk, if any. The next morning she will refuse to eat; her ears all drooped and head hung down; she then looks sick and generally feels hot to the hand when you lay it on her body. Bloody murrain has the same symptoms except the urine turns to blood, gets a little bloodish, then in a day or two has the appearance of pure blood. They last from 6 hours to 4 or 6 days, then die. I forgot to state that on cutting open a cow with what we call dry murrain (have never cut open one with bloody murrain) the contents of their manifold is dry enough to burn, and caked and packed tight. The feed in this section is cottonseed meal, hulls, bran and hay; the cows generally run on the range, woods, fields, etc. Also have a horse nine years old that ate Virginia creeper vine about two months ago and it poisoned him; has not got over it yet. Looks shaggy and will not fatten. Feed him oats, corn and hay.
Cleveland, Tenn. L. W. SLAUGHTER.

1. The first cases are impaction of the third stomach, and it comes from excess of astringent matters in food. It is to be prevented by allowing plenty of drinking water, salt and succulent food. If succulent food cannot be given, would advise mixing raw linseed oil in bran mashes, or giving flaxseed meal with other food. Or mix epsom or glauber salts with drinking water and flowers of sulphur in salt allowed to be licked at will. Treatment consists in giving from one to two pints of castor oil shaken up in milk, at one dose, followed by copious injections of soapy warm water in rectum each hour until bowels move, and large doses of stimulants at once, and every three hours while the oil is acting. A suitable stimulant is two ounces of sweet spirits of nitre and one ounce of aromatic spirits of ammonia in a quart of warm flaxseed tea. 2. The bloody urine comes from acrid plants in wild land and necessitates change of pasture, soft, nutritious food and a dose of purgative as above, followed by two drachms of powdered alum three times daily. Also try to lime land, drain and otherwise improve. In this connection it may be added that bloody urine is also a symptom of Southern or Texas fever carried by ticks to acclimating cattle. 3. Mix one quart of New Orleans molasses with a like amount of water and feed to horse twice daily along with cut hay, wheat bran and corn meal. Feed whole oats at noon. Exercise well. Amount of molasses may be increased until horse has picked up sufficiently.

Indigestion.—About two weeks ago my cow had a calf; she was in healthy condition beforehand, but is not in good condition now. She eats heartily but does not improve. She has something like fits. Mouth open and slobbering; looking back at her stomach.
Town Creek, Ala. C. ETHEREDGE.

Change pasture, feed soft, nutritious diet. Give a pint of castor oil in milk and follow every four hours with an ounce each of sweet spirits of nitre and aromatic spirits of ammonia in a quart of warm flaxseed tea If she continues to have pain when oil is acting give an ounce of laudanum with above medicine. There is apparently some irritant in stomachs.

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Well Drilling. — Attention is called to the adv. of J. J. Koger & Sons, Mooresburg, Tenn., in another column of this number. Those of our readers who have not solved the water problem successfully would do well to write the above firm for catalogue describing their well drilling machines. They claim them to be the cheapest and most practical well drilling machines made. When writing for catalogue mention the P. F.

"Very valuable around our stock barns, in fact, almost anywhere that a disinfectant is required," writes Harry B. Winters, of Winters Farm, Smithboro, New York, referring to CHLORO-NAPTHOLEUM DIP. If you have never used it you cannot realize how it aids in keeping the premises clean. It refreshes the animals and keeps the flies away. The standard preventive and remedy for Contagious Abortion. Kills all germs, mange, itch, ticks, scabs, lice, etc., on live stock from chickens to horses. Sprinkle or dip. 1 gal., $1.50; 5 gals., $6.75; 10 gals., $12.50; freight paid. The West Disinfecting Co., Inc., 15 E. 59th St., New York.

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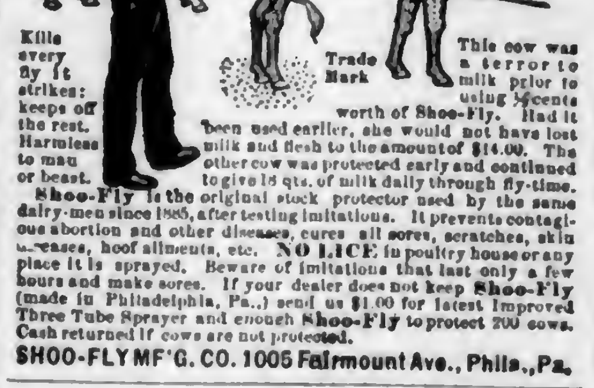
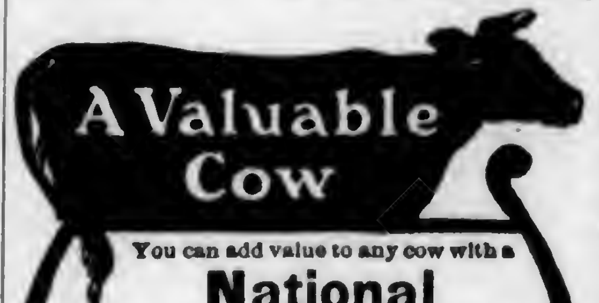


Kills every fly it strikes; keeps off the rest. Harmless to man or beast.

This cow was a terror to milk prior to using ½ cents worth of Shoo-Fly. Had it been used earlier, she would not have lost milk and flesh to the amount of $14.00. The other cow was protected early and continued to give 18 qts. of milk daily through fly-time.

Shoo-Fly is the original stock protector used by the same dairy-men since 1885, after testing imitations. It prevents contagious abortion and other diseases, cures all sores, scratches, skin diseases, hoof ailments, etc. NO LICE in poultry house or any place it is sprayed. Beware of imitations that last only a few hours and make sores. If your dealer does not keep Shoo-Fly (made in Philadelphia, Pa.,) send us $1.00 for latest improved Three Tube Sprayer and enough Shoo-Fly to protect 200 cows. Cash returned if cows are not protected.

SHOO-FLY MF'G. CO. 1005 Fairmount Ave., Phila., Pa.



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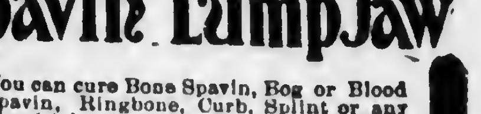

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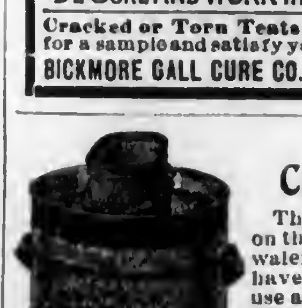

Pat. May 21, 1901.

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Also manufacturer of Veterinary Pixine.

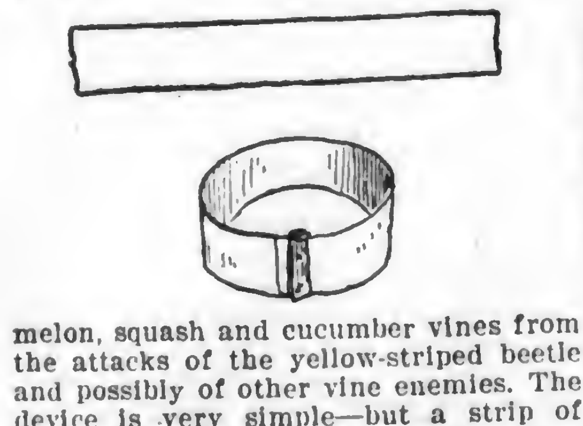
THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

The Lettuces.—Not in a long time have we had any longer season of the enjoyment of lettuce, nor any finer quality of any of the lettuce sorts, than this year—and we are still in it. The cool, wet weather of June was just right to bring this vegetable to its greatest perfection. There was greater call for it on the part of customers, and for a longer period, than in past years. We can grow fine heads directly from seed, rather closely in the rows; yet in order to have the heads remain sound for the longest possible period, they ought to have a proper allowance of space, say at least 5 or 6 inches in the row. Closely grown lettuce plants are also more subject to the attacks of slugs, which are the one animal foe which we have to fear on this crop. With heads standing far enough apart, we can easily reach the enemy by applications of salt, lime, ashes, etc., either in dust form or as a spray in water. The lettuce varieties listed in catalogues are almost endless, and scores of them are good and reliable. I find the 40 Days lettuce (Maule) quite satisfactory for an early one. It is not large, but forms a neat, compact head of choicest quality, markedly ahead in season of larger and coarser sorts. Prizehead is also a good early sort. It forms large, curled and beautifully red tinted leaves, but the heads are not as compact as those of the 40 Days lettuce. Silver Anniversary (also Maule's) makes an immense head, fairly solid, with leaves somewhat coarse but brittle, and of delicate light color. Myer's All Right is all right until it goes to seed, which it does nearly as quickly as 40 Days, and much ahead of Silver Anniversary, Rosette and others. The New Rosette is a genuine cabbage heading sort, close and compact, and one of the very best and most reliable of summer lettuces.

Vine Enemies.—Mr. Purdy suggested the use of tarred felt protectors, made as shown in illustration, for saving melon, squash and cucumber vines from the attacks of the yellow-striped beetle and possibly of other vine enemies. The device is very simple—but a strip of tarred felt, single ply, as shown in upper figure, say three inches wide, and 15 or 18 inches long. Bend this in circle form letting the ends overlap. Place a narrow strip of thin wood three inches long, along the edge both outside and inside, and nail with two tacks, clinching them firmly on a piece of iron. The lower figure shows the device completed, and thus it may be placed over the hills. It is not an absolute protection, as I have discovered; but it seems to keep the beetles off to some extent at least. Whether the tar will have an injurious effect upon the plant, I am not yet able to tell. Some of my plants, thus encased by protectors, have a singular appearance, the foliage appearing glossy, as if coated with some foreign substance like varnish. Yet thus far the plants have seemed to thrive. This gloss has seemed to come on in hot weather only. One season's trial of disparene, the new arsenical preparation put on the market by the Bowker Chemical Co., of New York and Boston, has proved highly satisfactory to us, but not so to potato bugs and cucumber beetles. The latter came in goodly numbers, as usual, during June and July, and threatened to destroy the entire patch of cucumbers, melons, squashes, etc. The plants were then kept covered with Bordeaux mixture to which a generous dose of disparene had been added—and the beetles disappeared. No beetle can live long, I believe, where disparene has been freely applied, and at present I am in hopes, (in fact confident) that in these arsenical poisons we have the means to control the vine pests.



A String of Queries.—A. T. A.—"1. Can celery be grown successfully in light, sandy soil? 2. What do you consider the best water melon? Best muskmelon? In growing melons is it best to cut back the vines? 3. What is the best preparation to keep garden tools from rusting when not in use? 4. Is there a valuable book published for the market gardener giving full instuctions how to force the various garden products so as to have them at the earliest possible date? If so who publishes it? 5. Where can I get a good reliable barometer such as Mr. Terry relies upon? 6. What variety of potatoes would you recommend for the extra early crop? What for the main crop? Want a large yielder with good quality. 7 How much and what kind of arsenical poison do you add to your Bordeaux mixture for spraying melons and about how often do you spray? 8. What do you consider the best remedy for the cabbage worm?" 1. Probably the best soil for celery is a rich loam that is well filled with humus, as for instance a rich muck, or a good garden loam. But light sandy soil will do first rate if well manured with old stable manure or compost. A very high quality of celery can thus be grown. 2. The best watermelon or best muskmelon is the one best suited to your climate, your purposes or markets. I cannot recommend one above another. Here I have to use the early watermelons like Early Harris, National, Sweetheart, etc., and for my own use and purpose prefer the little Emerald Gem to all others. I do not cut back the vines, although it may be done late in the season, thus removing all specimens that cannot be expected to get ripe. 3. Keep the iron parts of the garden implements well oiled all the time, the wooden parts painted, and the whole under shelter. 4. How to Make the Garden Pay may hit your requirements. To be had of the Farmer Co., of Philadelphia, at $2.00 per copy. Or you may get Bailey's forcing book. Can probably be had from the same firm. 5. Probably the Farmer Co., can furnish the barometer. If not you can get it at any optician's or large drug store. 6. I like the Early Ohio for a first early potato; Carman Nos. 1 and 3 for late ones. 7. Use Paris green (or possibly disparene) as an addition to the Bordeaux mixture. Be sure to use an excess of lime with the Paris green and plenty of the latter, say a pound to the barrel of Bordeaux. Spray every week or ten days. 8. The best remedy for the cabbage worm is wholesale planting on rich soil. For smaller patches use spraying (forcibly) with hot water, soap suds, salt water, tobacco tea or poisoned Bordeaux mixture, or apply buhach, tobacco dust, dry lime, or any other dustlike material in dust form. What is the best, depends really on what we have on hand most conveniently. The worms are easily disposed of if taken in hand promptly.

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Current Comments.

Growing Kale.—B. Turner, Angwin, Cal.—"Kindly tell me about kale. Seeds received from Uncle Sam were planted in spring, re-planted in fall, and the following spring gave us plenty of greens, went to seed during summer and died. My garden book says kale should last about 15 years and I thought that they died because I let them go to seed. This spring I have some young plants, and they are bound to go to seed in spite of me. I have been cutting off the seed stalks, and the more I cut the more they come. Is my book wrong, or is it the seed, or what is the matter? Please tell me what is wrong." In my present state of feeling towards Uncle Sam's free seed fake I would like it if I could just tell you that the seed you obtained from that source is poor or spurious. But it is probably all right. The fact is that kale, although with cabbage, a native of European sea coasts, was originally classed as a perennial plant, has now, in cultivation, become a biennial plant. It starts one year, goes to seed the next and then dies. Possibly the plant which was meant to be good for 15 years is sea kale, which is a perennial herb.

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Points and Pickings.

What Next? Turnips, winter radish, kale, spinach and other things.

Who Now of Weeds his soil keeps clear, will have less weeds to fight next year.

Sometimes Lettuce sowed in open ground in mid-summer gives a good crop for fall use.

Among the Onion Sorts for sowing in mid-summer or early fall to make early green onions, don't forget Prizetaker.

The Free Seed Abuse.—The California Fruit Grower has the following to say about the free seed distribution: "Time was, probably, when the free seed distribution as followed by the United States Government, was a useful and valuable institution, but if so that day has long past. It is gone never to return, probably. As originally planned, the institution was supposed to serve the purpose of introducing and fostering new crops, but this has long been but a subterfuge for continuing a cheap, personal advertising scheme by which the member of Congress hopes to benefit. There is now nothing new in the seeds being sent out. They are the same old varieties of garden vegetables, for the greater part, and the only thing original about them is the pertinacity and the regularity with which they appear, either through the mails, or from the hands of the interested member of Congress, or from the hands of the local editor or postmaster who frequently act for the man from Washington."

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A Free Kidney Remedy.

Dr. D. A. Williams, East Hampton, Conn., says if any sufferer from Kidney and Bladder Disease will send him their address he will mail them free of all cost, some of the remedy they are looking for—the ONE that will cure them.

◆

Good Ensilage Machinery.—Corn raisers have pretty generally gotten past the idea that when the ear and blade are taken from the stalk they have all that is valuable and that the stalk may lie around to waste and litter the land. It is because such wasteful notions are almost a thing of the past that there is such a keen demand among small and large corn growers and stock feeders for such ensilage and dry fodder cutting machinery as is the subject of our illustration. It is now the famous Gale-Baldwin Ensilage and Dry Fodder Cutter, with elevator attachment, manufactured by the Belcher & Taylor Agricultural Tool Co., Box 30, Chicopee Falls, Mass. The same machine, with varied styles and sizes of Baldwin hand and power cutters, is advertised elsewhere. Rapid work on light power distinguishes it. Its mechanism is of the simplest and strongest and it is a perfect worker all the way through. It cuts fodder any length desired and carries either straight away or to either side. Anyone desiring further information should procure the Company's catalogue at the address given above. Be sure to mention the P. F. when sending for it.

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The importance of Potash in grain culture is explained in our books which we mail *free* to all farmers who write for them.

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Acme Harrows Indestructible. Cheapest because the best. Send for cat. DUANE H. NASH, Sole Mfr., Millington, New Jersey, and Chicago.

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And other insects can be Controlled by Using
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Caustic Potash Whale-Oil Soap No. 3.
It also prevents Curl Leaf. Endorsed by Entomologists. This soap is a Fertilizer as well as insecticide. 50-lb. Kegs, $2.50; 100-lb. Kegs, $4.50; Half Barrel, 270 lbs, 3½c. per lb.; Barrel, 425 lbs., 3¼c. Large quantities, Special Rates. Send for Circulars.
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SPANGLER Low-Down Grain and Fertilizer Drill
Positive force feed for fertilizer, grain and grass seed. Drills any depth, perfect regulation, low steel or wood frame, high wheels with broad tires. Easy to fill and operate. Light draft. Investigate before buying. Write for free catalogue.
SPANGLER MANFG. CO., 507 QUEEN STREET, YORK, PA.
STANDARD EVERYWHERE. FULLY WARRANTED.

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The Endless Apron Great Western Manure Spreader.
SPREADS and pulverizes all kinds of manure, fresh, well rotted, mixed, full of straw or cornstalks, sheep manure. No matter how tough, we guarantee our spreader to spread it so evenly that one load will do more good than three spread by hand. Endless Apron is always ready to load. No turning back after each load is spread. Front wheels cut under and machine can be turned in its own length. REGULATED while in motion to spread thick or thin. Our non-bunchable rake holds all large chunks on top of beater until they are thoroughly pulverized. Combined Hood and End Gate keeps manure away from beater while loading and acts as wind hood in spreading. LIGHTEST DRAFT ever produced on a manure spreader, because front and rear wheels track and the load is nearly equally balanced on front and rear axles which brings load up close to horses. Send for free illustrated catalogue giving full description and how to apply manure to secure best results. Saves time, labor, money.
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It spreads all kinds of manure, lime, salt, ashes, compost, etc., either broadcast or in rows. Does it better than it can possibly be done by hand.
Do you know of any other piece of machinery for use on the farm of which this can be truly said?
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Kemp Manure Spreader
not only makes easy work of getting out the manure, but by the way in which it breaks it up and makes it fine, it more than trebles the value of the same. It will break up and spread evenly, manure that cannot be handled with a fork. It doesn't matter how hard, lumpy, caked, strawy, or stalky the manure is, this machine will spread it. It makes fine, well rotted manure go a long ways in top dressing wheat in the spring, meadow lands, pasture, etc. Being mounted on broad faced wheels, it can be handled on any kind of ground without serious cutting in or rutting. Can spread back and forth, as front wheels turn entirely under. Can be turned on the ground it stands on. 1903 machine has our new Beater-Freeing Device, Apron-Returning Device and numerous other improvements. Send for latest catalogue (free) and read about these and other advantages and also about "How to Grow Big Crops." Remember that the only original and genuine Kemp Manure Spreader is made by us and the patents thereon have been fully sustained by a recent decision of the U. S. Circuit Court. KEMP & BURPEE MFG. CO., BOX 33, SYRACUSE, N. Y.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Wild Blackberries.

At one time when walking through a friend's fruit garden the writer came on a patch of blackberries bearing an enormous quantity of fruit. The berries were not of extra large size, there were too many of them to admit of that, but they were large. On expressing pleasure at the fine appearance of the patch and asking the variety, it brought out the information that it was but a wild kind, dug up along a fence row, and which, having been encouraged, had become the patch it had. This is mentioned because that without doubt many a valuable variety exists in wild places, which, transported to a garden and given care, would be as good, perhaps better than some now cultivated. Many a school boy knows of localities where blackberries are better than at others. Nearly all the varieties cultivated today are chance finds and are not sorts raised by experimentors. In view of this, it is worth while always to note the locality of any wild fruit striking us as of good or superior quality, and, if possible, to remove it to our garden, giving it a chance to become still better under good care and management.

The Sweet Briar.

In some of the older settled parts of our country where the sweet briar was introduced many years ago, it has become almost wild. It seems quite hardy; and apart from the delicious perfume of its leaves, it makes a pretty ornamental clump or small hedge. In early summer its sweet smelling pretty pink and white flowers are produced in great profusion, and then when autumn comes it presents to view its lovely coral seed pods. A good place to plant this old favorite is near a dwelling room, as after a shower of rain its sweet odor is wafted indoors, being more powerful when the leaves are moist. Although in the hands of nurserymen the seeds are not hard to get to grow, they are to the inexperienced, and it is better to buy the plants, which can be had from all rose growers and nurserymen. In the gardens of the wealthy near our large cities the sweet briar is sometimes seen as a hedge, and a pretty one it makes. In this position it requires a little pruning twice a season, just enough to keep it in shape.

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Horticultural Queries.

Bulbs.—I have a number of hyacinths out of the ground that needed transplanting, and I write to ask if it is too early to put them in the ground now, or better to wait until September? Would there be any harm in transplanting now, as they have been in the cellar more than a month?

LUCY G. BUCKLIN.

Bulbs, such as hyacinths, may be left in the ground the whole season through, and will not grow until the proper time arrives, but as yours have been out of the ground a month it might happen that planting them now would start them growing at once, to their injury. Therefore, to be safe, defer planting until September or October. Any further inquiries you may wish to make will be cheerfully answered.

Plums Falling. — Last year our blue plum trees were very full, but about June or July they began to turn purple and fall off until few were left. This year the case is the same. Is it the blight? Trees grow fast. Can we save this year's crop in part, or prevent a loss next year? Trees are 15 feet apart and 20 or 25 feet tall.

Crawfordsville, Ia. MRS. C. M. STRAIN.

The plums are falling probably either from the stings of the curculio or from the plum rot. If on opening the plums you find worms in them, it is the curculio; if no worms, it is the plum rot. Both can be largely overcome. In spring, just as soon as the flowering is over, spray the trees with Paris green. Do it again three weeks later, or sooner if rains wash it off. Give one more spraying six weeks after the first. If it is plum rot, spray with Bordeaux mixture as soon as flowers fall, again at the times already recommended, but continue a little later than for curculio, say until the fruit has almost done growing. If you do this, I think you will ripen a crop. I hope so, anyway, and shall be glad to hear of your success. I fear it is too late to be of any use to spray now, but whether it be curculio or rot you should destroy all the fruit that falls, by burning it, that the disease will not be lurking around for another year.

Borers.—How can I best keep borers out of peach trees? Would lime be a benefit to the trees, and how should I apply it?

Belleville, Pa. JOHN W. GRASSMYER.

It is as much labor to prevent borers getting in as it is to get them out, and the general practice is to go over the trees twice a year, in July and October, and if signs of entry are there, get the worms out. Close meshed wire is being used by some to prevent ingress. If the meshes are small enough the insect cannot get through to lay its eggs, and the tree is secure. It would be your best plan. Place the wire two inches below ground and six inches above and you would be safe. But be sure no insect, or grub, is in the tree before you put on the wire.

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Horticultural Notes.

Running Roses should not be closely pruned, as the strong young shoots are those that give the flowers. It is much the same in the case of the hardy June roses; but teas and everbloomers may be, in fact, should be cut in closely.

Lavender Plants.—So many persons say they desire to obtain lavender plants yet cannot raise them from seeds. It is probable the seeds sold have lost their vitality. But nurserymen have found the plant roots readily from cuttings, and it is now easy to obtain plants in that way. Lavender is hardy in Eastern Pennsylvania.

Non-Bearing Fruit Trees. — If you have fruit trees of large size, growing thriftily, and which should have borne fruit for some time but have not, dig around them, and at two feet or so below the surface of the ground sever one or two of the strong roots. Do this in fall or spring, and there should appear some flower buds the season following.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

The Old Flock.—A laying hen is too valuable to be killed for meat. As long as she lays four or five eggs a week, or even three or four (and fowls do that right along all summer and fall, when not moulting) she pays from 5 to 10 cents a week for her board, or for an outlay, to the owner, of only one or one and a half cents. Possibly old fowls are in good demand just at this time, and may bring a better price in market than at almost any other season of the year; yet we would not sell one as long as her egg mill is in good working order. With the new plan of forcing hens to moult early, and to begin laying anew in October or November, we keep at least the younger birds over until they stop laying in early winter, when the pullets alone can be depended upon to continue laying right through and give us the eggs we need or desire. The old roosters that we don't want for next year's breeding, are disposed of, and enough of the best young cockerels saved from the fate of becoming capons, so that we will have our pick of several fine ones for mating with the hens next breeding season. All pullets that are not of the right type, or up to our standard and our ideas or ideals of the breed, have to go to market or into the kettle. The cockerels, for the most part, are to be converted into capons.

New Blood. — A change in males is often desirable. Inbreeding must be avoided, although for common practical purposes it is not as detrimental (if not continued too long) as often supposed. We try to introduce males not related to our hens, at least every other year. It is much easier to secure good cockerels from professional breeders, or from some neighbor or acquaintance who keeps the same breed in its purity, by purchase or exchange, in fall or early winter than it will be at the beginning of next breeding season. It is a good deal of trouble to keep males over. They eat; they fight; they harass the hens. For these reasons we would want a good round price for a male for breeding purposes if we have to winter him over, while a small figure, comparatively, would buy him in early fall, or just when he is nearing maturity. So if you need one or more males of any pure breed, get them now, and have them in readiness when their services are required next February or March.

Scaly Legs. — The disease known as "scaly legs," is present in most flocks, and some fowls are very seriously afflicted with it. And yet it is so easily cured and kept out. An occasional dip of the fowls' legs into clear kerosene oil or crude petroleum is all that will be needed to keep the birds' legs free from the scab mite, or to cause the scabs to fall off and the leg to become clean, no matter how badly diseased. Commercial Poultry suggests a milder remedy, saying: "Mix one teaspoonful of coal oil with two or three of lard, or in that proportion, and thoroughly grease the shanks of the afflicted fowls. This will kill the mites that cause the trouble. It is a good plan to prevent the trouble by greasing the shanks of the whole flock occasionally." This remedy is all right, too, but we have usually employed the clear kerosene as more quickly effective, and handier to apply.

Keeping Eggs for Winter Use.—As a rule, we have fresh eggs from our fowls during winter. Yet we seldom go into the winter without a good quantity of eggs put up for use if our fowls should fail to supply the fresh article during January and February. If we have the fresh ones, the others, if well kept, are easily disposed of at profitable prices. We have had not a little experience in keeping eggs for winter use by simply smearing them all over with a thin film or coating of vaseline or petroleum, and packing them in boxes or regular egg crates that can be turned occasionally. Another good, safe way of keeping eggs in good condition for months, is to hold them immersed in a ten per cent. solution of waterglass, preferably in a stone jar stored in a cool place.

Pure Breeds.—Why is the pure bred fowl better than the mongrel, asks Commercial Poultry, and then answers this conundrum as follows: "The reasons are so many. For one, you can always depend on the pure bred for uniform growth. Take a mongrel hen and her chickens will vary. They never grow fast, and one or two in the bunch will be ready for the market two months before the others. Not only that; the pure bred are uniform in looks after dressing, and sell higher on this account for breeding and hatching purposes. Their eggs and themselves always sell higher than the market price for either. Persons raising the pure breds exclusively in this country must keep all their eggs from early spring until the hatching season is over to supply the demand for the eggs; and now, since incubators are so useful and common, those who want eggs often order many weeks ahead to get all they need. Another reason is that the mongrel hen averages at the best about 40 eggs per year. The pure bred laying breeds with worst care given will lay over a hundred eggs, and with moderate attention I have known them to lay very close to 200 eggs per year." Most of this we endorse, fully and freely. But we are not yet ready to claim a pure bred hen will lay so many more eggs under neglect than a good mongrel, or that many of even the best bred will reach the 200 eggs per year.

◆

Pointed Poultry Paragraphs.

There is no Such Thing as luck in poultry keeping. It is all in management and care of the poultry.

In Late Hatched Chicks we force quick growth by especially regular, careful and heavy feeding.

Old Lettuce Plants as cleared off the rows in the garden, go to the fowls kept in small yards.

We Gather our eggs once a day with greatest regularity. And no egg found in an odd place, or in a "stolen" nest, ever goes into the general egg basket. If found fresh, it is used at home.

Accident more than disease is what we fear as causes of loss among our fowls. Poultry are not naturally subject to diseases. The best medicine ever invented for fowls is cleanliness.

After the Hatching Season males in the flock are a nuisance more than a benefit. We dispose of the old roosters not wanted for breeding again and try to keep those to be held over for next year, in confinement with the broody hens. Eggs from a flock without a male keep all the better.

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PROF. W. F. MASSEY, Editor.

Philadelphia, August 15, 1903

A FRIEND in New York State writes that he has planted some black cow peas in drills for the purpose of saving seed. He says they are up and about two or three inches apart in the rows. He has been advised that it is necessary to thin them to six or eight inches in the rows for seed. We would do nothing of the sort, for it may be that frost may come early, and that he will fail to ripen the seed, and in that case the more vines he has on the land to pasture off the better. And we think that the crop of seed will be better as they are than if thinned.

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A WRITER in the Breeders' Gazette makes a good suggestion to farmers in the South whose lands have gotten infested with Johnson grass. The suggestion is to sow hairy vetch among the Johnson grass, and thus make a better hay. While we do not advise anyone to sow Johnson grass where it has not already gotten possession, we think that the suggestion is an excellent one for those who have and cannot get rid of the grass. The vetch, from its habit of re-seeding itself and coming again every fall will be able to hold its own with the Johnson grass, and the tall Johnson grass stems will furnish the needed support for the vetch, and both together will make a very superior hay. In many parts of the South the Johnson grass has taken possession of the land and it is almost impossible to eradicate it. Hence in such sections the addition of a persistent and hardy legume like the vetch will enable the farmer to get greatly improved results in hay from the grass, and in such sections it may be the opening up of a profitable forage crop and winter pasture, as the vetch grows freely all winter in the South, and on strong land we have seen it three feet high in February where not pastured. As we have said, we do not advise the sowing of Johnson grass where it has not already got possession, but where it has, it is the part of wisdom to make the best of it.

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Political Education.

Hon. A. L. White, formerly president of Cornell University and Ambassador to Germany, in an address at Yale, urged that wealthy men should endow professorships in the universities, of International Law and Comparative Administration of Government, and especially of United States History. The idea seems to be to prepare men for public life and diplomatic service. Such chairs would be very useful if conducted on a high and non-partisan plane. But the danger would be that different colleges would drift into different schools of politics and political teaching. In the college curriculum of the past the subject of political economy has always been taught. We remember well in our own college days how one of our old professors, a high tariff man, used to kick because he was required to use Wayland's Political Economy, a low tariff book. With an enlargement of these studies there would inevitably grow up different schools of politics in different parts of the country and the training would be of partisans instead of statesmen. International law can well be left to the proper schools of law. What is needed in a country so largely agricultural is that the wealthy men direct some of their educational gifts to the better equipment of the colleges of agriculture, and to place agricultural teaching on a higher plane.

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A Well Deserved Promotion.

Dr. Geo. S. Fraps, who has for some years been Assistant Chemist in the North Carolina Experiment Station, has been elected Chemist of the Texas Agricultural Experiment Station. Dr. Fraps is a native of Raleigh, N. C, and was one of the most interesting students under the Editor of the P. F when a professor in the North Carolina College, where he graduated. He then won a fellowship in John Hopkins University and there acquired the degree of Ph. D. He is the author of a number of scientific contributions and has published a book on the "Principles of Dyeing," which is a standard work in textile schools. North Carolina loses a strong and growing man, and Texas gains one. Dr. Fraps is an occasional contributor to the P. F., and has the faculty of writing simply and instructively.

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Velvet Beans and Bulbs.

The Editor of the P. F. has just made a trip of inspection and study among the bulb growers of Southern North Carolina. These bulb farms are on the line of the Atlantic Coast Line R. R., in Duplin county. The soil there is a light, black sand which never suffers from drought, and the growth of bulbs for the Northern dealers is something wonderful. One grower showed us a fifty acre field in cannas covered with their big heads of bloom of all shades from pink to dark crimson. One acre was occupied with the dark maroon-colored leafed variety known as Black Beauty. Looking over that sea of flowers one wonders where all the roots, of which there are hundreds of thousands, will find sale. And yet there are other growers in the same neighborhood. The same firm has over ten acres in gladiolus, and large quantities of crinums and amaryllis. They have also forty acres in Caladium Esculentum, and in the warehouses there were piles of narcissi of various sorts, and hyacinths of great variety. Tuberoses are there by the hundred acres, for two firms there handle about twelve million bulbs of these alone. One field we saw is planten in a new tuberose called Armstrong's Everblooming. It is rightly named, for it blooms its spikes of graceful single flowers continuously, even the young offsets of the present season throwing up flowers. While we were there there was a cartload of these flowers cut and shipped to Philadelphia, and the firm ships cut flowers from the open ground nearly all the year, for the hyacinths and narcissi are in bloom there in February, and are followed by a constant succession of flowers. In another field there were acres and acres of dahlias, and they are going to grow the Bermuda lily successfully there, too. What interested us greatly was the splendid growth of the velvet bean. In late July the field where these were growing had on it a mass of green waist deep, and they assured us that though the growth was so enormous it is less difficult to mow the hay than that of the cow pea. But in this great mass there is always a considerable portion of the under part that decays next to the ground and as a preparatory crop for the bulbs they find it superior to anything else. The seeds mature in some seasons but not in others. The bulb farms of East North Carolina are well worth a long trip to see. They supply the trade in all the Northern cities and tuberoses in London.

Diversified Farming.

Realizing the evils which have come in all sections of the country, from the wheat fields of Minnesota to the cotton fields of the South, from single cropping year after year on the same land, writers have urged farmers to practice a more diversified agriculture. This is all right, if it is a proper and systematic diversification designed primarily for the improvement of the soil, and the increased production of the staple crop. But there seems to have grown up, in the South at least, a class of newspaper writers who urge that the farmer should grow something of everything that his soil and climate will produce, and that he should buy nothing that can be grown on his land. This would be diversification with a vengeance. But would it be business-like farming? The adaptability of soil and climate to certain crops has made them the staple money crops of various sections. In the beautiful valleys of Southeastern Tennessee and North Alabama men are growing cotton on lands and under conditions which point to wheat, grass and cattle. They can grow cotton, it is true, but could do better by making wheat and cattle their specialties, as here and there some are doing. Then in the true cotton belt, the warm, sandy soils of the South Atlantic and the Gulf, we find men scattering their energies in growing some cotton, some tobacco and some market garden crops, and yet no one of them sufficiently specialized to get the best that can be made from them. What we need in every part of the country is not to produce something of everything we can grow, but specialized farming, in which the whole rotation is devised for the purpose of increasing the production of whatever may be the best money crop of that section. If this is wheat, then farm for wheat, not sowing vast areas year after year in wheat until the land will no longer produce a paying crop, but farm systematically, and make the land pay its way to the production of increased yields of wheat. In like manner, if the money crop is tobacco, do not fall into the old notion common in some sections, that you can get your land too rich for the production of the best tobacco, but farm for an increased production of tobacco, and you will find that increased production per acre will go hand in hand with improved quality. It is seldom wise to have two hoed sale crops on the same farm in addition to the corn crop which we all must have in this country. If in addition to the corn we also try to grow cotton and tobacco, one or the other will be apt to be neglected and the improvement of the soil interfered with. The tobacco grower of the Middle and Northern States will naturally be a wheat grower, since there is no hoed crop that prepares such a fallow for wheat as tobacco. But he will be unwise if he adds another hoed sale crop to his tobacco. Corn and tobacco can readily form the hoed chop shift in his rotation, alternating each other on the land in each round of the rotation. But a third hoed crop, as a sale crop, will require the lengthening of the rotation, and a longer time between the humus-making crops of legumes, and hence smaller yields of both money crops. Local conditions here and there may make it profitable, as in the long seasons of the South Atlantic States, to vary somewhat from this rule, as the growers of early vegetables there find that on their highly manured lands they can grow large crops of cotton after their early vegetables have been shipped North, and can multiply crops on their lands through the long growing season. But it is not of the market gardener and his intensive methods we write, but of the farmer whose interest lies in selling wheat or other grain, cotton or tobacco. Each should be a specialist with his money crop, and yet not a single cropper. He should feed cattle, of course, as much for the aid they will give in the increased production of his sale crop as for the profit direct from the cattle. If he neglects stock feeding he will invariably fail to get the best results from his wheat, tobacco or cotton. In short, he should make a profession of farming, study his crops, study his land and FARM in a business-like way.

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The Cream of the Bulletins.

Oklahoma Agricultural Experiment Station, Stillwater, Okla. Bulletin No. 55. Bermuda Grass. By John Fields.

The bulletin starts with the summary stating that of all the grasses tried on the Station farm, Bermuda alone has shown the qualities which must be possessed by a pasture grass in Oklahoma. This is the answer to the question that has most frequently been asked of the Station by inquirers seeking a good lawn and pasture grass for the Oklahoma climate. Until two years ago the Station was unable to answer these questions, and could only make suggestions. But during the past two years Bermuda grass has been recommended as worthy of trial on all sorts of soil for pasture and for lawns. Experiments made at the Station farm and in other localities have developed the fact that Bermuda grass will grow under a wide range of varying conditions in all parts of Oklahoma. Bermuda closely resembles in its growth the Buffalo grass with which the people of Oklahoma are familiar. It takes root at the joints and spreads rapidly from runners, but is larger, coarser and greener than Buffalo grass. A good illustration is given of a plant of Bermuda grass taken from the publications of the Department of Agriculture. In Oklahoma it is stated that the period of growth of the Bermuda is from May 1st to November 15th, the most vigorous growth being made during July, August and September, when even the native grasses are at a standstill. It furnishes a large amount of nutritious pasturage throughout the season, and when a good stand is had does not appear to be harmed by close grazing. Bermuda is best propagated by pieces of the runners dropped in shallow furrows and covered with soil. As it is not extensively grown in Oklahoma there is no nearby source for these cuttings, and it will be necessary to start a small plantation from seed. Bermuda grass seed costs about $1 per pound, but a pound will seed a quarter of an acre. It should be sown in March or April in good, clean soil and a firm seed bed. Scatter the seed just before a rain and rake in very lightly. When it germinates the plants are very delicate and easily choked by weeds and crab grass so that hand weeding is often necessary. After it is established the grass will take care of itself. It grows and flourishes in the South on hard roadsides where continually tramped by pedestrians, and seems to rather like the tramping. Any Southern seedsman can supply the runners or the seed. As to eradicating Bermuda grass, the bulletin states that fortunately the majority of Oklahoma farmers are not afraid of grass. They like to see it growing and they appreciate its value as feed for stock. But there are some who fear anything that persists in growing, and protest against Bermuda for this reason. So far as the Station has observed the Oklahoma seed germinates poorly, and there is small danger of the grass spreading from seed. Bermuda, therefore can be put where it is to remain permanently and no attempt should be made to work it into a crop rotation. Its true place is the permanent pasture and the lawn. It may be killed out by shallow plowing in fall and winter, and the growing of oats or other thick crops followed by cow peas as soon as the crop is removed. It is well known in the South that Bermuda grass will not grow in the shade, and shading crops are the most effectual means for eradicating it. Its value as a lawn grass is limited, therefore, to sunny lawns, for it refuses to grow under the trees where blue grass will grow. It is a summer lawn only, for it browns on the approach of frost, and should have Texas blue grass mixed with it for a winter lawn. A good illustration is given of the growth of Bermuda grass as a binding grass on a pond bank, and its use in the stopping of washes is well known everywhere in the South. Several pages of the bulletin are devoted to the experiences of other Stations, and of farmers in all parts of Oklahoma with Bermuda grass, and for the droughty climate of Oklahoma it seems well adapted.

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CONTENTS

AGRICULTURAL.—Taking Care of the Carriages. — Hay from Second Growth Clover. — Subduing Quack Grass. — Health Hints. — Do You Take a Cool Bath? Twenty Minutes of Care of One's Self. 97
A Grass Report. 98
QUERIES.—Tall Plantain.—Where Timothy Failed.—Garden Fence.—Sawdust Again.—Crimson Clover.—Land Plaster. 98
Pasture in Piedmont N. C.—N. C. Bulletins.—Alfalfa in North Carolina. 99
LIVE STOCK AND DAIRY. — Growing Silage Crops. 100
Stock Queries.—Heifer Query. 101
VETERINARY. — Verminous Bronchitis. Callous. — Cough. — Deafness.—Farcy.—Bloody Urine.—Indigestion. 101
GARDEN.—Talks on Timely Topics.—The Lettuces. — Vine Enemies.—A String of Queries. — Current Comments.—Growing Kale.—Points and Pickings. 102
HORTICULTURAL.—Wild Blackberries.—The Sweet Briar.—Horticultural Queries.—Bulbs.—Plums Falling.—Borers.—Horticultural Notes. 103
POULTRY. — Seasonable Suggestions.—The Old Flock.—New Blood.—Scaly Legs. — Keeping Eggs for Winter Use.—Pure Breeds.—Pointed Poultry Paragraphs. 103
EDITORIAL.—Political Education. — A Well Deserved Promotion. — Velvet Beans and Bulbs.—Diversified Farming. 104
CREAM OF THE BULLETINS. 104
COMMERCIAL. 105
HOME CIRCLE. — Look for Sunshine, Leave the Shadows.—All in a Lifetime, Part 5. — Fruit for Health Pleasure and Profit.—College Girls and the Ballot.—In the Kitchen.—Laundry Work. 106
Woman Suffrage.—"He Taught Them as One Having Authority."—Medical Hints.—Correspondence. 107
OUR EXPERIENCE POOL.—Topic No. 585.—Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour? 108
FARM IMPLEMENT ANNEX. — The Darkey and the Disk.—Wood Box.—Geared Grindstone. — Improving the Weeder.—Fastening Doors Open.—Apparent Extravagance. — The Plow Hoe.—Cultivator Harrow.—Dust Board. 109
MISTAKES, FAILURES AND SUCCESSES.—Hog and Fodder House.—How I Saved my Tomato Plants.—Oust the Sparrows.—Pigs and Potatoes.—To Set Trimming on Waist.—Plowing up Swales.—How to Plant Potatoes.—Cure for Horse Colic.—Too Much Guessing.—Canning Apples. — Fit the Collars.—Colic in Horses. — Things Worth Knowing. — First Experience with Turks.—For Plowing.—Care in Buying Stock.—Cleaning Water Fountain.—Canning Rhubarb.—To Clear Premises of Rats. 110
POSTAL CARD CORRESPONDENCE. 112

IN these busy times when to the farmer, pressed to the limit with the work which must be done, the minutes and hours seem tumbling over each other to end the day, he hasn't much time to talk up the P. F. to his neighbors as a steady job, and we are not looking for him to do it. But a spare moment sometimes edges itself in here and there, and a word spoken then may result in a new name, even enough names to make up one of those popular 6-name clubs. By and by, when the pressure of farm work is somewhat lightened we shall look for active work for P. F. all along the line.

COMMERCIAL

Philadelphia, Aug. 8, 1903.

WHEAT.—

The market was firm and prices advanced ½c. under bullish speculation in the West, but exporters showed little interest and demand from millers was light. The world's visible supply, as calculated by Bradstreet's showed a decrease of 1,613,000 bushels.

No. 2, red, spot and Aug.	81¼	@	81½
No. 2, Penna. and Del.	83¼	@	83½
No. 3, red	76¼	@	76½
CORN.—			
No. 2	56½	@	57
No. 2, yellow, track	60	@	60½
No. 3	52½	@	53
OATS.—			
No. 2, white clipped	41		
No. 2, white natural	40	@	40½
LIVE POULTRY.—			
Fowls, hens, per lb.	14½		
Roosters, per lb.	10		
Spring chickens, per lb.	14	@	15
Spring ducks, per lb.	12	@	13
Old ducks, per lb.	11	@	12
DRESSED POULTRY.—			
Fresh killed fowls, choice	15		
do do do average	13½	@	14½
do do old roosters	10		
do do broilers, nearby	17	@	20
do do do Western	17		
do do do average	14	@	16
BUTTER.—			
West. creamery, 1st to extra	18	@	20
Ladle packed	13	@	15
Prints, nearby, 1st to extras	20	@	22
Prints, West. do do	19	@	20
EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
Nearly fresh, ret'bl crates, L	18½		
Western, choice, free case, L	18½		
So. Western do do L.	16	@	17
So. choice do do L.	15½	@	16
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	10¼	@	10½
Fair to good	9½	@	10
State, part skims, prime	6	@	8
GREEN FRUITS.—			
Blackberries, per qt.	6	@	10
Peaches, Ga., carrier	2.50	@	3.00
Del. & Md. Mt. Rose, bas.	1.25	@	1.50
do do Troths, per bas.	1.00	@	1.25
Grapes—			
N. C. Del., 8-lb. bas. car.	1.75	@	2.00
Watermelons, So., car	125.00	@	175.00
Canteloupes—			
Ga. & N C., per crate	75	@	1.50
Md., per crate	1.50	@	2.25
Pineapples, Fla., crate	2.50	@	3.50
Whortleberries, per qt.	5	@	8
APPLES AND PEARS.—			
Apples, per bbl.	75	@	2.00
Per basket	15	@	50
Pears, LeConte, Ga., per bbl.	2.75	@	3.25
POTATOES.—			
Jersey, per bas.	30	@	33
Sweets, So., yellow, bbl.	3.25	@	3.50
do do red do	2.25	@	2.50
BEANS AND PEAS.—			
Beans, marrows, H. P., bu.	2.60	@	2.65
Pea beans, H. P., 1902, bu.	2.35		
Red kidney, 1902, bu.	2.90	@	3.00
Green peas, per bu.	1.50		
Scotch peas, per bu.	1.55		
COTTON.—			
Cotton, per cwt.	12.75		
FEED.—			
Bran, bulk, winter, per ton	17.50	@	18.00
Bran, sacked, spring	17.50	@	18.00
HAY AND STRAW.—			
Timothy, West., No. 1, large	18.50	@	19.00
do West., No. 2, small	15.00	@	16.00
Timothy, mixed Western	12.00	@	16.00
Oat	9.00	@	10.00
Straw, straight rye	18.50	@	20.00
Wheat	10.00	@	11.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5½	@	5¾
Good steers	4⅞	@	5¼
Medium steers	4½	@	4¾
Common steers	4	@	4¼

CALVES.—

Veal calves about steady.

Extra calves	6¾	@	7¼
Fair to good	5½	@	6½
Poor and common	4½	@	5
Grassers	3	@	4

HOGS.—

Hogs lower.

Fat hogs, Pa. & Del.	6½	@	7¼
Fat hogs, Western	7¾	@	8

SHEEP.—

Sheep and lambs lower.

Sheep, extra	4¼	@	4¾
Sheep, good	3½	@	4
Sheep, medium	3	@	3½
Sheep, common	2	@	2½
Lambs, spring	4½	@	6¼

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The New York Market Review.

There has been a large speculative demand in butter the past fortnight, and with supplies running very liberal for this time of the year prices have held very steady. The cool weather has favored the storage houses, and they are taking goods freely, buying them in most cases much cheaper than earlier in the season. The average of receipts has been between sixty and seventy thousand packages each week, with practically no exports. Consumptive demand is light. Some defective stock is selling at small prices, but most of the grades are firm up to 19c. per lb. Receipts of cheese are also large, and demand for best grades for storage purposes is quite active. Goods cost a good deal at primary markets, and this has advanced prices here. There has been almost a total absence of export demand, and this has affected large sizes very materially. Canadian ports continue to supply most of the exporters with their supplies. Wheat has had an erratic course on the seaboard, and prices steadily weakened early in the week, but at the close there has come a decided reaction, and buying is steady. This comes in spite of a break in corn. The feeling is that anything that reduces the wheat crop even a very little will inspire sharp buying and higher prices. There is not such a surplus of world's wheat to permit of any persistent decline. Foreign markets have turned firm, and some early shipments of rye from here indicate some alarm in Europe over the condition of that crop. Corn broke a cent or two under heavy liquidations, but it recovered part of its loss before the close. Exports are limited, but foreign buyers are closely watching the market. Oats have been steady sellers, and there is a considerable trade in cash stuff here and in the West. On the whole, however, prices follow other grains.

The receipts of live poultry have run heavy in the past week, and prices are generally lower for nearly all kinds; but live pigeons are in light supply, and ducks and geese fairly steady. High prices prevailed last week for dressed poultry, and this attracted much larger receipts here, which caused quotations to decline. There is a good consumptive demand, and if supplies would moderate somewhat the market would be in a most satisfactory condition. Chickens suffered the most in the decline, and current prices have induced some speculators to buy up large quantities and put them in the freezers. Spring geese are plenty and dull, and spring ducks are scarce and firm. Turkeys are dull and moving slowly, although receipts and supplies on hand are small. Eggs have met with a better market than poultry. There has been a constant hardening tendency in all fresh eggs, and owing to the cold weather fewer receipts injured by the heat have come in. The market is satisfactory all around, and best eggs are worth from 20 to 23c. per dozen. A few far Western and Southern eggs are arriving which sell down as low as 7 to 10c. per dozen, but these are mostly checks and inferior culls.

There has been no particular change or promise in wool circles, but on the whole a regular, steady absorption of wool continues, and this gives confidence to holders in the situation. Territory and fleece wools are particularly strong. Some increase in the volume of trade might be noted at full prices. As a rule, the large dealers in wool are holding off, waiting for some further developments. It is not a time to induce business men to tie up additional capital in raw goods, and the demand is more from hand to mouth. Crossbreds and low wools have had some steady demand, and they share in with the higher grades in the general market movement. The recent high prices in hay have declined quite a little, and business is very quiet, although receipts are light. Grading is particularly rigid, and a good deal of the shipments are marked down to lower grades than intended. Prime hay to reach $1.10 and $1.12 per 100 pounds must be exceptional in all particulars. There is some demand for really fancy rye straw at 85c. per 100 lbs., but most of the receipts are sold from 75 to 80c. There has been a weaker market in dried domestic beans, and choice white marrows and medium have all suffered some relapse. Red kidneys have been in demand by shippers, and they ruled strong at full prices. White kidneys are also in sellers' favor, but not very active.

G. E. W.

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New York, Aug. 8, 1903.

WHEAT.—			
No. 2, red, f. o. b.	85⅜		
No. 1, No. Duluth, f. o. b.	97⅜		
CORN.—			
No. 2	58½	@	59
No. 2, f. o. b.	59		
No. 2, white, f. o. b.	59		
No. 2, yellow, f. o. b.	59		
OATS.—			
Standard, white	40½		
No. 2, white	40½		
No. 2, white clipped	41½		
No. 2, mixed	38½		
No. 2, clipped	38½		
No. 3, mixed	37½		
No. 3, white clipped	41		
No. 3, white	40		
HAY AND STRAW.—			
Timothy, large bales, cwt.	1.10		
No. 1	97½	@	1.00
No. 2	85	@	90
Clover, per cwt.	60	@	70
Straw, long rye, per cwt.	75	@	80
BUTTER.—			
Creamery—			
Firsts to extras	17½	@	19
State dairy, tubs—			
Firsts	16½	@	17½
West. Imitation Creamery—			
Finest	16	@	17
Packing stock—			
No. 1 solid packed	14		
No. 2 and 3 solid packed	12	@	13
CHEESE.—			
State, f. c., small, extra	10⅜		
Fair to prime	9	@	10⅛
Large colored, extra	10		
Large white, choice	9⅞		
State, light skims—			
Choice	8	@	8¼
Part skims, prime	6	@	6½
Full skims	1	@	1½
EGGS.—			
QUOTATIONS AT MARK.			
Nearby—			
Fancy selected white	22	@	23
State & Pa., f. g., extras	20		
Mixed lots	20		
Fresh gathered, extras	20		
Fresh gath., 2d to 1st	18	@	19
Western—			
Fresh gath., 1st to extras	17	@	19
Dirties and candled, No. 2	11	@	12
LIVE POULTRY.—			
Spring chickens, nearby, lb.	14		
Western, per lb	14		
Southern, per lb.	13½		
Fowls, per lb.	14		
Roosters, per lb.	9		
Turkeys, per lb.	11		
Ducks, average, per pair	60	@	80
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	25		
Live pigeons, young, pair	20		
DRESSED POULTRY.—			
FRESH KILLED—ICED.			
Turkeys—			
Average best, per lb.	13	@	15
Old	14	@	15
Broilers—			
Phila., 4 lbs. pair, per lb.	20		
State & Penna., 4 lbs. to pair, per lb.	17	@	18
Western, d. p., per lb.	14½	@	15
do scalded	16		
Southern, scalded, sm., lb.	11½	@	12
Fowls, West., scald., sm., fcy	13	@	13½
Dry picked, small, fancy	13½		
Southern & So. West., d.p.	13	@	13½
do scalded, per lb.	13		
Spring ducks—			
Long Island, per lb.	17½		
Eastern, per lb.	17½		
Jersey, Pa. & Va., per lb.	16	@	17
Western, per lb.	10	@	12½
Squabs—			
Prime, large, white, doz.	2.50	@	2.75
Mixed, per doz.	2.25		
Dark, per doz.	1.50		
Spring geese, Eastern, lb.	18		
APPLES AND PEARS.—			
Apples—			
Astrachan, per bbl.	1.75	@	2.25
Sour Bough, per bbl.	2.25	@	2.50
Nyack Pippin, per bbl.	2.00	@	2.50
Openhead barrels	1.00	@	1.50
Pears—			
LeConte, fancy, per bbl.	3.50	@	5.00
Choice, per bbl.	2.00	@	3.00
Nearby, common, per bbl.	1.25	@	1.75
Kieffer, per bbl.	1.75	@	2.50
Clapps Favorite, per bbl.	3.50	@	4.00
GREEN FRUITS.—			
Pineapples—			
Fla., Red Span., per crate	2.50	@	3.50
Smooth Cayenne, per crate	2.75	@	3.25
Grapes—			
N. C., carrier, Delaware	1.75	@	2.00
N. C., carrier, Niagara	1.25	@	1.50
Muskmelons—			
N. C., crt., large, selected	1.50	@	2.00
Choice, crate	50	@	1.00
Baltimore, crate	2.00	@	2.50
Baltimore, basket	1.00	@	1.50
Norfolk, crate	75	@	1.00
Watermelons, per 100	10.00	@	19.00
R. R. shipment, per car	100.00	@	165.00
Steamer ship., per car	100.00	@	175.00
Peaches—			
Md. and Del., per bas.	75	@	1.50
Jersey, per basket	50	@	75
Georgia, average, carrier	2.00	@	2.25
Fancy, carrier	2.50	@	3.00
Blackberries, Wilson, per qt.	8	@	14
Huckleberries, l'g blue, qt.	9	@	11
Small, per qt.	6	@	8
Plums, Burbank, per carrier	75	@	1.25
8-lb. basket	25	@	40
Common, per qt.	4	@	5
Raspberries, Oswego, pint	9	@	10
Up-river, per pint	6	@	12
Currants, Cherry, per qt.	10	@	12
Small, per qt.	8	@	9
Grape fruit, Cal., box	1.75	@	2.25
VEGETABLES.—			
Cabbage—			
L. I., Wakefield, per 100	4.00	@	5.00
Flat Dutch, per 100	4.50	@	5.00
Cucumbers—			
Baltimore, per basket	50	@	80
Jersey, bu. box	75	@	1.00
Norfolk, per bbl.	1.25	@	2.00
Cucumber pickles, per 1,000	3.00	@	3.50
Cauliflower, per bbl.	1.50	@	2.25
Celery, fancy, per doz.	40	@	50
Good to choice, per doz.	15	@	35
Eggplants, Norfolk, bbl-crate	2.00	@	2.50
Jersey, per box	75	@	1.10
Green corn, per 100	75	@	1.50
Lettuce, Boston, per case	1.50	@	1.75
Western New York, case	1.75	@	2.25
Lima beans, per bu.	2.50	@	3.00
Peas—			
Western N. Y., basket	1.25	@	1.75
Western N. Y. bag	75	@	1.50
L. I. and N. J., bag	75	@	1.25
Peppers, Jersey, box	75	@	1.25
Per bl.	2.00	@	2.75
String Beans—			
Long Island, per bag	75	@	1.00
Western N. Y., bu. bas.	1.50	@	1.75
Wax, bu. basket	1.25	@	1.50
Squash, So., white, bbl. crate	50	@	1.00
Marrow, bbl. crate	75	@	1.00
Yel. crook neck, bbl. crate	75	@	1.00
Russia turnips, bbl.	1.00	@	1.50
Onions—			
Yellow, basket	75	@	90
White, basket	1.00	@	1.25
Kentucky, bbl.	2.00		
Bags	90	@	1.00
Tomatoes—			
North Jersey, per box	60	@	65
Acme, per box	1.25	@	1.50
Common, per box	40	@	50
Southern, carrier	30	@	40
POTATOES.—			
Long Island, prime, per bbl.	1.75	@	1.87
Jersey, prime, per bbl.	1.62	@	1.87
Per bag	1.75		
So., fair to good, bbl.	1.25	@	1.75
Sweets, So., red, per bbl.	1.75	@	2.00
Yams, So., white, bbl.	2.25	@	2.75

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Look for Sunshine, Leave the Shadows.

JOHN W. REILEY.

Life is marred by dire forebodings,
 Filling present hours with gloom;
Bearing burdens of tomorrow
 Sear the soul, as frost the bloom.

Darkness sought will linger near us—
 Taking from but adds the more—
And the shadows, deepening 'round us
 Steal from sunlight's precious store.

Trouble is full half imagined,
 Seek the other half to shun,
And your path will shine the brighter,
 Toward the setting of the sun.

Though the day is dark and dreary,
 Shines the sunlight, clear, above;
And o'er earthly care and sorrow,
 Wait our summons: "Peace and love."

Let us, then, look upward, onward,
 Laughing fancied ills away;
Driving back the dismal shadows
 That obscure the light of day.

And when burdens, unavoided,
 Come to us, as come they must,
Let us gird our hearts to meet them,
 With the ties of Heavenly trust.

Alexandria, Ky.

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All in a Lifetime.—Part 5.

VELMA CALDWELL MELVILLE.

"O, I'm in no fret," said Mrs. Waddle calmly. "Harriet, you allers was a master hand at crulls; but these soaked up the grease considerable."

But the cat played with her mouse too long for once. Before she had divined his intention Jeff had abruptly finished his meal, was up from the table and striding from the room, muttering something about "late milking."

"My gracious, Jeff Greely," she cried, "you aint goin' without hearin the news, be ye, when it concerns you more'n anybody else?"

But her words were drowned by the rattle of milk pails and a whistle that was meant to sound decidedly cheerful and careless. Bouncing out of her chair she fairly shrieked:

"Patty Pearl Winthrop's married; been married fer a month or more."

If she expected to see him fall, as if she had fired a shot into his back, she was disappointed. He paused, turned coolly around and asked:

"Is this the first you've known it?"

With a gasp she sank onto a bench just outside the door.

"Jeff Greely, you don't mean to say—"

But he had resumed his line of march and his whistle—the tune was "The Girl I Left Behind Me."

"Did you know it, Harriet Greely?" cried Mrs. Waddle, turning back into the room with blazing eyes.

"Mercy sakes, no!" said the lady addressed. "And I don't b'lieve Jeff did; he's jest bluffin."

"Mebby," was the doubtful rejoinder, but evidently the keen edge of her enjoyment was dulled.

"Ruth Westover says ther' going South to his relations. They live in style down there. He's going to leave her a spell if it agrees with her. He's 'fraid she'll have consumption or something if she stays here. Don't it beat all how she could throw Jeff over jest to win this fellar 'cause he wears biled shirts 'nd stiff collars 'nd has soft, white hands 'nd wears jewelry. My, I wouldn't no more let Lonetta ner Locetta throw themselves away on sech a fellar than I'd put my hand in the fire. But then I never did think Patty Pearl had any too much sense, 'nd as fer Ruth—well, we all know what a shallow pate she was, 'nd how she jilted Jeff's father fer Daniel Westover 'cause he had more property."

"What air you talkin about?" cried Mrs. Greely coloring angrily. Ruth Danforth never had the chance to throw Frank over, 'nd as to Dan'l havin' more property than Frank, I have my misgivens."

Mrs. Waddle only smiled in a pitying, superior sort of way of her own and went on:

"Patty Pearl's the meachenest looken bride I ever see. She's jest ez white ez a sheet, 'ceptin when them red spots come on her cheeks. Them's consumptiony. Fer my part I don't b'lieve she'll live a year."

Meanwhile preparations were going steadily on at the Westover farm. The doctor lavished his earnings upon his bride, and hired a dressmaker from the larger town beyond to come out and "rig her out in style," as Aunt Ruth said. All this afforded food for the gossips, and they certainly rolled it all as morsels, not sweet ones, however, under—and over—their tongues. Among the callers was Katie Carson. She was not modest at all about parading a showy ring on her engagement finger, but the first glimpse of it sent the cold chills up Patty Pearl's spine. It was not the one she had worn. If Jeff gave it to her he had bought it on purpose. She hardly knew whether to be glad or sorry. She wanted to feel justified in the course she had pursued, and to be able to quell the rebellious yearning in her soul by feeling that he had wronged and deceived her.

It was two days yet before their departure, which had been twice postponed, that Mrs. Dr. Glen, driving one of the farm horses home from the village, met Jeff Greely. She was passing with a mere bow, when he spoke her name and reined up his team. The lines trembled in her hands and she felt her breath coming in gasps; but with an effort she controlled herself and stopped her own horse. With a dignity and ease that Patty Pearl never observed about the man before, Jeff alighted from his wagon, stepped to the side of her buggy and extended his hand. Mechanically she took it without removing her glove, so he did not know how cold her fingers were.

"Patty, I just want to wish you much happiness and say God bless you."

"I am sure you are very kind—" the girl began, then feeling a lump rising in her throat, she added hastily, "all my friends are, but it may not be amiss to wish you the same. I hear you and Katie are, that is, it is supposed you are, engaged"

"I have never mentioned anything of the kind to her yet," was his quiet rejoinder.

There was a moment's awkward pause, and then, with a bow, he turned, sprang to the high seat and drove away without even looking back. Mechanically Patty Pearl went on, but the strange constriction about her heart was there for many a day.

It was a ruined old plantation home to which Dr. Glen took his bride. Largely overgrown with weeds and underbrush, there was but a small area under cultivation, and this was "on shares." The work was done by Uncle Rasmus, a decrepit old negro, who had been a slave in his youth, but in whose heart there still burned some of the traditional loyalty of his race.

Dewild Langstroth was a woman of some fifty years, tall, willowy, graceful, and had had a full share of the beauty and languor for which the South is noted. She was the child of her father, and Colonel Langstroth was a Southerner of the Southerners.

Dr. Glen was the child of his father, a Northerner, who, falling wounded into the Widow Langstroth's hands, won first her pity, then her love, and finally married her. Dewild never forgave her mother this marriage. She hated everything pertaining to the North, and the fact that her lover lost his life in the great struggle between the two sections only served to embitter her.

So it came about that when fatherless and motherless at twelve years of age, Harry Glen came to his father's brother in the North. He was a poor man, however, with a large family and could do little more for the lad than to give him shelter and food. Then the Scotch ancestry shone forth and young Glen said: "I'll make my own way," and he did. The same quiet persistence that carried him through, helped him win the girl he loved. Although Dewild Langstroth had ignored his claims upon her during his years of helplessness, she was not averse to recognizing him as "my dear brother," when the battle was virtually won, and he made an occasional flying visit to "The Place," as the Langstroth plantation was called.

And thus it came about that when he wrote her of his intended marriage and the delicacy of the girl, she penned a very pretty invitation for him to bring her "to the maternal mansion." "Paternal" was an awkward word to use under the circumstances, as the subject of their fathers was one usually let strictly alone between the two. Lest someone hastily give Miss Dewild too much credit, we will here explain that a visit from the doctor was synonomous with unwonted good things. And an extended visit on the part of his wife would certainly insure a reign of plenty. It was a balmy day early in October. Uncle Rasmus had been scolded and cajoled into using the old brush scythe on the front lawn, and Miss Langstroth had bribed the young negress, who did her laundry work, with a bright red petticoat, brought from the depths of an old chest in the garret, to pull weeds, rake the grass and otherwise put in order the immediate outdoor premises in general. Aunt Dawn, housekeeper and maid of all work, save the laundry, had put in all her spare time for days sweeping down cobwebs, burnishing andirons and candlesticks, scouring windows and otherwise overhauling the inhabitable part of the dilapidated old mansion.

Miss Dewild had, with her own hands, to Aunt Dawn's scandalization, cleaned the few pieces of silver and arranged the room to be occupied by the "young missus." At nine o'clock Rasmus had out the family carriage, a queer old carryall, and Donald, an elderly but spirited mule. Three hours later the same conveyance rolled slowly up to the side door and Harry Glen lifted his young wife to the ground and the two women stood face to face, the one tall, dark and languid, showing age and yet defying the years; the other young, winsome, lovely.

(To be continued.)

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Fruit for Health, Pleasure and Profit.

A. J. UMHOLTZ.

The question often arises why so few farmers raise small fruit, even for family use. There is hardly anything that a farmer raises that is as sure a crop as most kinds of small fruit. Of course some kinds of grapes, raspberries and blackberries are too tender to raise in some climates or localities, but I think there are some varieties of each of these fruits that are suitable to about every locality in the temperate zone. Strawberries of some kind can be grown everywhere, with the proper care. Some varieties do much better in some soils than others do. Many farmers no doubt think it is too much trouble to take care of patches of small fruit, but if they get started once in raising small fruit, and learn how to take care of and handle them, and have them to eat daily during their season, and realize their health-giving properties and the pleasure of seeing the beauties grow, they will always find time to plant them and give them pretty good care, if not the best. To know the value and profit in a thing is what excites one's interest in the same, and to get a deep interest in any line of work means success in that work. We have ripe fruit of some kind nearly every day from the first of May until in September. First are the strawberries, which last from six to seven weeks, having the earliest and latest kinds. Before strawberries are gone we have ripe raspberries, of which we have several varieties. Dewberries are ripe before the late raspberries are ready to pick. Before the late raspberries are all gone the early blackberries are ready to be used. By the time the last blackberries are gone our early grapes are ready to tickle our fruit appetite. We have about two acres in small fruit. The most are grown between apple and peach tree rows before the latter are large enough to take up the ground. From these two acres of small fruit we supply our good sized family of children with all the best fruit they want (and they are all good fruit eaters, sometimes making nearly half their meal on it), and sell from $50 to $150 worth. Our nearest market is 13 miles away, over rough roads. The praise we get for bringing such fine berries to market pays for the ride over the rough roads, and the good price gives the profit. For the past 18 years our doctor bills have been less than $1.00 a year, the fruit regulating our systems. Ground wants to be well prepared for plants of small fruit, and set out with care at the proper season, which in different locations will differ somewhat, and then give the proper cultivation with a Planet Jr. cultivator or similar tool, and they will live and do well, if the right varieties for locality have been selected. Farmers, try an acre or two of small fruit, doing your best, and if your wife and children do not feel happy over the plan and your own stomach rejoice and pocketbook jingle a little more, I'll admit I know nothing about fruit. Do not be afraid if your family physician grumbles a little.

Tum, Ark.

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College Girls and the Ballot.

At this time of year, when thousands of young women have just graduated with credit from our high schools and colleges, some of them after taking honors in political economy and the science of government, attention is called afresh to the inconsistency of excluding all these bright and intelligent young citizens from the ballot, simply because they are women. Col. T. W. Higginson, in an address to a class of students, expressed what many women feel at this time of year. He said: "There was a time when, whatever a woman studied in school, the idea of her studying political economy would have seemed an absurdity. How is it now? Go into the nearest grammar school, and what may you happen upon? A mixed class of boys and girls reciting the Constitution of the United States, or some one of the various manuals upon the history of politics or the organization of our Government—reciting it together, side by side, perhaps reciting it to a woman. Or you may go even into a college and find a whole class of young men reciting to a woman in political economy, out of a handbook written by a woman, Millicent Garrett Fawcett. After these boys and girls have attained their maturity and voting day comes, then they separate as they come near the voting place, and every boy goes inside the door to put what he has learned in the school, of that teacher, into practice; and the girls and their teacher pass along, powerless to express in action a single one of the principles they have been so studiously learning. How can the woman help feeling as she would feel in a Mohammedan country when she found that in the greatest and most sacred mosques the edict was that 'no idiot, lunatic or woman can enter?'"

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In the Kitchen.

Mrs. O. H. Webber, Tolland, Mass., writes: I want to tell the H. C. sisters one way that I economize time this hot weather. I am a farmer's wife and have four children, and do all my own work. I get along without carpets in the sleeping rooms, and never sweep them, but clean them with a mop and pail full of warm, soft water and a tablespoonful of soap powder, changing the water often. Then there is no dusting to do, and the floors are so white. It takes less time than sweeping and looks better and is cooler.

Here are some of my well tested recipes:

COTTAGE PUDDING.—One egg, piece of butter half size of an egg, half cup sugar, cup sweet milk, flour to make a thick batter in which has been sifted two teaspoonfuls of baking powder. Sauce for this pudding is made as follows: Yolks of two eggs, the juice of two lemons, one cup of sugar, beaten to a cream. Beat the whites of the eggs to a stiff froth and stir in lightly.

HUCKLEBERRY CAKE.—One cup of sugar, one cup of sweet milk, two and a half cups of flour, one egg, butter the size of an egg, two teaspoonfuls of baking powder, one and a half cups of huckleberries. To be eaten hot with butter. It makes a very nice tea rusk by leaving out the berries and using only half the sugar.

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Laundry Work.

A. M. H.

A little knowledge on the subject of how to wash properly, will enable women to oversee the work so as to have it done satisfactorily, even by an indifferent servant, when it is not necessary for her to do the work with her own hands. It takes plenty of soft, clean water and good soap to insure success in the laundry, as hard water and resin soap are the foes of good washing, and very delicate colored fabrics should be washed through thin starch water without using soap. If the wash water is hard, soften it by using lye or wood ashes, or by adding a tablespoonful of household ammonia for every gallon of water; then if the water is muddy add a tablespoonful of alum. Another good remedy for muddy water is salt and the yolk of one egg. For one barrel of water use one tablespoonful of salt and mix thoroughly with the egg. Stir it in the water and in a few hours you will find the water perfectly clear. As it is absolutely necessary to have soft, clear water for washing nice summer garments, it is well to know how to clarify and soften water. Every economical mother should be well versed in the art of removing spots and stains, for many nice garments are ruined because the stains have not been removed before the garment was put in the laundry. It is a good thing to keep a bottle each of ammonia, turpentine and alcohol in the house, as with one or the other of these spots and stains may be removed. Very little rubbing is necessary if turpentine is used in boiling the clothes, but they should be put to soak over night in the warm suds. The next morning put on the boiler two-thirds full of water, then make a good suds and add one tablespoonful of turpentine and let come to a boil and put the nice white clothes in the boiler without rubbing. When the pretty waists and little dresses fade almost white, after two or three washings, they may be made serviceable by boiling the remaining color out in a strong suds and then coloring them with the Diamond dye for cotton, any shade wanted. A faded muslin waist will take any of the delicate colors, such as pale blue, pink or lavender, and they are often prettier than when new if the work is carefully done and a becoming color selected.

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Woman Suffrage.

President David Starr Jordan of Stanford University, writes: "The purpose of manhood suffrage is not primarily to give good government, but to make men strong. Without responsibility for national affairs, men will lose interest in them. Without interest, they will fall in intelligent comprehension of them. The tendency of manhood suffrage is to give broader views, wiser methods of action, and higher patriotism. While democratic forms often yield bad government, it is through their operation that we have the best guarantee of good government in the future.

"If voting has this effect on man, we have a right to expect similar results from the extension of the suffrage to woman. It has been made a reproach to women that they are short sighted, devoted to the near and the immediate, careless of ultimate results. This tendency exists in the nature of things, for woman's sphere is the home, rather than the nation. But if it be a reproach, the extension of responsibility would correct it.

"It is moreover true that the average man is prone to feel a greater interest in faraway affairs, which he cannot control, than in near matters which affect him vitally. He neglects the home and its needs, in his interest in the Nation. The sanitation of our own streets, the extinction of the slums in our own city, the purification of centres of corrosion which destroy our own children, is far more vital to us, as individuals, than the problems of imperialism, of commercialism, or even of national finance. In great affairs our republic is the most stable of nations. Her failure is in local and municipal administration. It is the reflex of the weakness of the average man. This the shorter but clearer sight of the average woman would tend to counteract. Equal suffrage would tend to broaden the minds of women, and to increase their sense of personal responsibility. It may help to solve the problem of honest and clean local government. It may tend to make our cities centres of sweetness and light, as well as of activity and strength."

* * * * * * *

Dr. Walter Glenn writes: "It seems to me that it should bring the blush of shame to the cheek of American manhood, were it not that said cheek was so steeped in iniquity that it is incapable of an honest blush, to think that with all our boasted chivalry and our self-vaunted gallantry, we, in this enlightened age, have been depriving our sisters of the right of suffrage for more than a century. It is due to the egotism, the selfishness and overbearing spirit which has ever characterized the male of the brute creation, and civilization has not yet fully eradicated all the brutish instincts from the human animal. It is a relic of barbarism, a savage custom which should have died with the birth of Christianity. In this glorious land of the free and home of the brave all may have the right of suffrage but the lunatic, the convict, the Chinese, the Indian not taxed and the woman. Brothers, how do you relish the idea of seeing your sweethearts, your wives, your mothers, your sisters and your daughters trot in that class? We make woman amenable to our laws and why should she not have a hand in making them? To woman we look for all the virtues of humanity, and we are less liable to disappointment than if we looked for them in a man. They are better citizens, as the arrests in the larger cities are only about one in seven, and the proportion is still less in the rural districts, and we seldom ever see a female tramp. There is no one gifted with ordinary intelligence and observation who will deny for a moment that the average woman, given a chance and encouragement, would be as capable of casting an intelligent vote as the average negro, the average foreigners reared among the monarchies of the old world, or even the average American, and yet we invite all these to come and take part in our government while we deny that right to our Martha Washingtons, our Grace Darlings, our Clara Bartons and our Helen Goulds. The Lord help them if they are any more ignorant than thousands of the Lord's creation who sputter away learnedly about politics all through the campaign, and then march up to the polls and cast their ballots for Heaven knows what—

[Good.—ED.]

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"He Taught Them as One Having Authority."

ALBERT MURPHY.

It was not that His oratory or eloquence excelled the Scribes that Jesus was known as a teacher "having authority," but because of his ability to satisfy the people in language and illustrations adapted to their understanding, that He was master of what He was teaching. His knowledge of the great value of the truth, and His love for the people, gave Him a zeal that looked like madness to those who did not understand His mission. The Scribes who "sit in Moses' seat," to whom the people had been looking for instruction in righteousness, were the greatest foes of the progress of truth. On every important subject relating to the welfare and progress of humanity, and especially that of religion and agriculture, we have the two classes of teachers—the "authority" and the "scribe."

The most valuable knowledge can only come by practical experience, or extensive observation, and no others are able to teach "as one having authority." Such experimental observers are apt to find a "hobby." It may not be larger than a clover seed or a cow pea, but they ride it, regardless of the agricultural newspaper scribes who mock and jeer until they are silenced by the prosperity that follows its adoption.

Professor Massey might have written an article or two on the value of cow peas, or advice to Southern farmers to raise more stock and home supplies for the good of their land, and general prosperity; or Mr. Terry might have written a few times on the value of clover in the North, or cement floors in stables, or fresh air and sunshine in the home, and they never would have been criticised for repeating themselves; but they have made their statements boldly and kept on repeating them until thousands of farmers all over the United States credit their prosperity to what they have gained by following their teaching. And now, on all questions relating to farm life, they look to them as teachers "having authority."

Many so-called agricultural papers do not exist because of their owners' especial love for agriculture, or ability to give valuable advice to farmers, but are given a rural name, that they may give wide circulation to their advertisements, many of which our most reliable farm papers will not carry. We should not swallow everything we see in print. We ought to form acquaintance with good teachers on every line in which we need instruction, and adhere only to such as have "authority."

Gordonsville, Va.

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Medical Hints.

Aunt Sally, Cabool, Mo., writes: I send a recipe for the lady with dropsy. Clean fireplace of range or cook stove and burn wild grape vines. Put a teaspoonful of the ashes in a glass of water and drink three times a day. The ashes settle, leaving the water looking milky. It does not taste bad. This is said by many to be a sure cure. I know of one very much swollen who was so cured. Do not continue the drink after size has become normal.

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Correspondence.

Thomas Moran, Shawnee, Col., writes: Editor H. C.: You wish to know something of woman suffrage from one who knows. Here is something about it and from one who knows, too. I was one of the original suffragists here and voted for it. It seems strange how much information you can get against it by people in the East (especially women) who know nothing of it at all. I live in a country community in the mountains. Most of my neighbors were against it and the women more so than the men; but when they got the chance to vote those same women were the first at the polls, and they have missed no chance to vote since, and none of them would vote to give it up. As to its effect on politics it is very little. Husband and wife generally vote alike in local affairs. Sometimes they differ. The only thing that I see in it is the principle that everyone who has to obey the laws should have a say in them. The say may be small but it is the same for the woman as the man, and the busy housewife takes an extra trip away from home, which trips are not too plentiful at best. As to rowdyism, there never has been any since I lived here (20 years), before or since woman suffrage. Husband and wife go and come home together whether they vote alike or not, and I never knew of an instance of a difference in voting making any trouble at all in the family. The behavior at elections is about the same as at church or any other gathering of neighbors. Now, Mrs. Editor, when you read of the evils of female suffrage or hear some speaker tell of them, set it down as ignorance or lying to satisfy a prejudice, or both.

[Thank you, Mr. Moran. We appreciate this letter very much.—ED.]

Mrs. S. H. Rogers, Creedmoor, N. C., writes: I have not written to the H. C. before, and hardly mean this for publication, but simply to express my heart's deep gratitude to its many contributors. I so enjoy the letters. Many times they have cheered and helped my soul and lightened the household cares of a delicate body. Will some of the friends tell me where I can exchange second-hand books for others of the same kind? Should also like directions for canning corn without boiling it six hours. Hope someone will answer soon.

[We have never tried canning corn, but will copy two recipes from The Practical Farmer Cook Book, neither one of which requires six hours. After exhorting to use only the best corn, the writer, Mrs. B. L. Perry, Guy's Mills, Pa., says: "Cut the corn from the cob and fill the cans to within one inch of the top. Pack it with a spoon; now fill full of cold water. Run a knife down through the corn and be sure all the space is filled with water. Screw on cover almost tight. Set in a boiler in a wooden frame; cover with water to about one inch above the can lids and boil for one hour. Set boiler off the range and remove one can at a time. If the water has settled below the corn in the can, fill from boiling teakettle and screw on top perfectly tight. Put back in boiler and boil one hour longer. A boiler will hold about thirteen quart cans, and it will take one person nearly a day to can them if the corn is picked the day before canning." The other recipe is credited to Mrs. Florence Amick, Oregon, Ind., and she says: "Take good sweet corn, put it in a kettle of water and let it come to a boil; then take out and cut from the cob. Have a jar ready, put a pint of salt in the bottom, then two pints of corn, alternating until the jar is full. Cover with a weight to hold it in place. When wanted for cooking, freshen for a few hours, then cook as green corn." Mrs. Bennett, McDonalds Mill, Va., cooks hers—cut from the cob we infer—as if for immediate use. When nearly done, puts in three-fourths of a pint of salt to every eight pints of corn—or other vegetables—and boils thoroughly until done, then seals in glass or tin cans, seeing to it that the brine covers the corn. When wanted for use she drains off the brine, turns into a saucepan and covers deeply with water, boils for ten minutes, drains and seasons for table. If you haven't the P. F. Cook Book, you will not regret fifty cents spent for a copy. Address The Farmer Co., Market & 18th Sts., Philadelphia.—ED.]

Sarah E. Evans, Dunlap, Cal., writes: Your earnest efforts are appreciated. I think the stimulus of the prizes for MS. from farmer women one of rare blessing. 'Tis so easy to grow lax and careless along that line. Some years ago I was a subscriber to the P. F.; then changes came and I dropped out, but am again in the H. C., but this is my first letter. Can someone tell me where and for what price I can obtain a good book on Spanish drawn work, particularly for pillows, or including them? I know there are such publications but know not where to get one. I am on a Government homestead 8½ miles below the Government Park of the Big Trees, but not the Mariposa Grove near Yosemite. These trees are larger than the specimens of that grove, but of more recent discovery. One just found in July is the largest in the world. While I am not one to stimulate discontent nor advise breaking up homes, I do think farmers need to travel more, for its broadening effect. I have dreams of cheap accommodations, especially for farmers' wives and daughters, when we can secure very low rates West. Then many may see these trees and enjoy this lovely climate; yet no one must think California perfection. Our mountain air is excellent, but there are hardships to be borne everywhere, and wherever one has a good home and good returns he had best stay, but all should take trips. California farmers generally are wide awake and up-to-date; but their wives and families usually leave home for frequent outings, so home is only a stopping place. They generally do not share in the work and interest as they do east of the Rocky Mountains, consequently only the wealthier people on farms have real homes. Occasionally there are Eastern colonies where this is not so, but it is common among farmers of the San Joaquin Valley.

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Topic No. 587, Aug. 29.—*What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?*

Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 585.—Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?

Mrs. J. S. Anderson, Oneida, Kan.—Select cucumbers of uniform size about three or four inches long. Wash them and for every gallon of pickles dissolve a handful of salt in enough hot water to cover them, and let stand twelve hours. Pack closely in jars, then dissolve a piece of alum size of a hulled walnut in enough hot water to cover them, in which let them remain six hours. Pour off alum water and let them remain in pure water six hours. Then take enough vinegar to cover them, two or three cups sugar, a small handful of mixed spice, boil five minutes, pour on hot and seal. A small piece of horse radish in each jar will greatly improve their flavor and add to their keeping qualities. By omitting the sugar you will then have sour pickles.

Mrs. J. B. Luce, Cherry Creek, N. Y.—I gather my cucumbers when from two to four inches long, and pack them directly in stone or wooden packages. Cover the bottom of the package well with salt, then put in a layer of cucumbers, then another of salt, and so on until the package is full, having the last layer a thick one of salt; then lay a large flat stone on the top to keep the cucumbers down in the brine; never add water, as they will soon form their own brine. After a few days the cucumbers will have settled enough so that many more may be packed in the same package. Whenever pickles are wanted I get about six quarts of the salted cucumbers, trim off the stems, leaving the smallest pickles whole, but cut the largest ones lengthwise into two or four-inch pieces, according to their diameter. Cover them with water, set on the top of a hot stove, changing the water as often as it becomes heated until they are nearly fresh. Then boil briskly for one hour, then put them in a jar and cover with good cider vinegar. If very sour pickles are wanted add no sugar. If a subacid flavor is desired add a coffeecupful of sugar. For sweet pickles add two or three cups of sugar. I notice my pickles, when prepared by the above method disappear quickly when set on the table.

Mrs. James H. Tull, R 1, Walker, Mo.—I cut the cucumbers from the vine, leaving a short stem. I wash them until all the little stickers are removed. I put them in a jar, first a layer of salt then a layer of cucumbers, and so on until the jar is filled. I put a cloth over them, then place a plate and weight upon it. I tie the jar up securely with a cloth and paper. Cucumbers put up in this way will make their own brine and will keep an indefinite time. When wanted for use soak them in clear water until the salt is all soaked out and then put them in vinegar. The way I manage sweet pickles is to take one-half a bushel of cucumbers and soak from twenty-four to thirty-six hours in salt brine strong enough to float an egg. Then I take them out and wash and cover them with vinegar and water (half and half) adding alum the size of a large walnut and let soak two days. Then take out, put in jars and put one green pepper in each large jar. Scald two gallons of vinegar with six pounds of brown sugar, one ounce each of stick cinnamon, whole cloves and allspice and pour it over the pickles. Can be used next day.

Miss Roxie Sheets, Lexington, N. C.—Take small cucumbers about two or two and one-half inches long. Soak twenty-four hours in rather strong brine. Rinse in clear water. If you have as many as one hundred cucumbers use 3 quarts of pure cider vinegar, one cup of sugar, one ounce of whole cloves, one ounce of stick cinnamon, one ounce of small black pepper and a little horse radish sliced, also a few pods of red pepper. Heat to boiling point and scald cucumbers in it. Then dip out and put in half-gallon jars and pour the hot vinegar over them and seal while hot. The pickles will be clearer if the black pepper and cloves are tied up in cloths.

Bertha Lawrence, Spafford, N. Y.—Recipe for making six hundred pickles: Make a brine of cold water and salt strong enough to float an egg; heat boiling hot and pour over the cucumbers. Let them stand twenty-four hours, then wipe dry. Scald vinegar and pour over them and let them stand twenty-four hours. Then pour off, and to fresh vinegar enough to cover the pickles, add one quart of brown sugar, two large green peppers, one-half a pint of white mustard, five cents' worth of ginger root, the same of cinnamon, allspice and cloves, one tablespoonful of celery seed, alum the size of a butternut. Scald these together and pour boiling hot over the cucumbers. These will keep a year.

Mrs. Frank Gregory, Shelbyville, Tenn.—Gather cucumbers two inches long, wash thoroughly, place in a brine consisting of three teacups of salt to one gallon of water, using weights to keep them under brine. Let remain under brine four weeks or longer. Remove amount desired, place them in water to soak out brine, changing water once a day. Place in vessel with enough good apple vinegar to cover cucumbers with two tablespoonfuls of alum to one gallon of vinegar. Bring to a boil. Place in bottles with vinegar enough to cover pickles.

Mrs. G. W. Dugger, Hettick, Ill.—We buy a bushel or two of small cucumbers, wash them clean and put in salt water to stand over night. Then take them out of the salt water and let them drain well and put them in good apple vinegar with spices to the taste. Put them on the stove and let come to a boil, then put them in fruit jars and cover with hot vinegar and seal up like canned fruit. Then your pickles will be ready for use any time and will keep for years. Or take the cucumbers as you pick them off the vines and put in a jar or water-tight barrel. Put a layer of cucumbers and a layer of salt, a gallon of salt to eight gallons of cucumbers, and put a heavy weight on them so that the brine will cover them, and they will keep a year or so. To get pickles ready to eat take a bucket of the salty cucumbers and put a quart of wood ashes and enough boiling water on them to cover them and let it stay twelve hours. This will make them firm. Then pour boiling water without ashes off and on them twice a day, letting soak each time, until the salt is out of the cucumbers. Then put them in vinegar and they are ready for use. We have tried both of the above ways for sour pickles and we know they cannot be recommended too highly if done according to the directions given.

Mrs. J. C. Wheeler, East Scott, N. Y.—Mustard Pickles.—To each gallon of vinegar add one cup of salt and a scant cupful of ground mustard. Pick the cucumbers every other day, wash and put into this vinegar until the jar is full, always keeping a weight on them to keep them under the vinegar. No. 2.—To one peck of small pickles put a handful of salt and cover with boiling water. Let stand one day, then boil and skim the brine and pour it back. Do this for three mornings in succession, then throw out the brine and cover the pickles with boiling water and let stand until cool. Boil four quarts of vinegar, two peppers, allspice, cloves and cinnamon to suit the taste, and one pound of brown sugar. Pour over pickles and put in glass jars.

Mrs. J. S. Davis, Northwood, N. H.—My best pickles are made by gathering the cucumbers when about as large as the fingers. Wash and let wilt slightly, being careful not to break off the stems or bruise the skin. Pack as tightly as possible in glass fruit jars, fill with sharp vinegar, and put a piece of horse radish leaf over the top next to the cover. Screw cover on tightly and keep cool and dark. Watch them a while and if vinegar turns light and milky pour out and put in fresh. This way needs more vinegar than heating would, I presume, but I prefer the pickles made so. If I have more cucumbers than cans, I pack them in a keg with salt and cover with brine that will float an egg, and weight them down. The only sweet cucumber pickle I ever make is from ripe cucumbers, pared, cut in quarters or eighths, four cuts lengthwise, then cut each piece crosswise if too long. Cook tender in vinegar and make a spiced syrup of vinegar, brown or maple sugar, and a spicebag full of whole cloves, stick cinnamon and bits of nutmeg. Cook in this until clear and well flavored with it. Put in large glass or earthen receptacles, and if well done it keeps about as long as you want it to if you like it as well as we do. Citron can be used for sweet pickles in place of cucumbers when more plentiful, only boil the citron in water first. It can hardly be told from cucumber.

Mrs. Frank G. True, Stark, Maine.—I fill a jar for immediate use and salt down my winter supply. For use I pickle each day the small cucumbers, from two to three inches long. Cover these with strong salt and water for twenty-four hours. Then wipe each one carefully on a clean cloth and put in jars. Cover with cold cider vinegar; add more each day until the jar is full. Then put a layer of well scraped and washed horse radish on top. That keeps the vinegar from moulding and improves the flavor of the pickle. With good vinegar they are fit to use in two weeks and will keep well. For my winter supply I use a regular pickle barrel, which can be bought of any provision dealer. Gather the cucumbers as for immediate pickling, using only the small ones. Wash them carefully and pack in layers in the barrel. Cover each layer with coarse salt. On the first layer put a quart of water to start the brine and they will make their own brine, as the salt penetrates them. If it does not cover the last layer add a little more water. See that they are under brine and they will keep for two years. When ready for use wash carefully, put in a kettle, cover with cold water and let come to a boil. Turn off that water and cover with fresh cold water and let soak for two days, changing the water night and morning. Drain them carefully and put in a jar and cover with cold cider vinegar. In three days they will be good. For sweet pickles I use perfectly ripe cucumbers. Peel and slice lengthwise, removing the seed. Use a cup of sugar to a quart of vinegar. If I have whole mixed spices I put them right in, or take two teaspoonfuls of cinnamon, one of cloves and one of allspice and put in a bag and put in. Add a teaspoonful of salt. Put the slices of cucumber in the boiling vinegar, using a few at a time so that they will be covered. Cook until clear, dip out into glass jars and continue until all are done. Fill the jars with the spiced vinegar and when cool they are ready to eat.

Annie J. Paddick, Chauncey, Ill.—Cucumbers to be nice must be grown quickly and gathered daily. Our ground is tiled and never gets too wet. We plant early, the 15th of May, Maule's Chicago Pickling. As soon as gathered wash in cold water, place in brine for twelve hours, scald in pure cider vinegar and seal as you would fruit. The term sweet pickle belongs to fruits, but you can add sugar to the vinegar if you want them sweet, about a pound to a quart of vinegar, or more if wanted sweeter. Or you can place your cucumbers in a keg covered with a heavy covering of salt (each layer I mean) and weigh them down. Cucumbers are about 90 per cent. water and they soon brine themselves. If any of the cucumbers get too large we peel and slice very thin, salt and tightly seal in scalding vinegar; these are called "worm pickles." I always plant endive for garnishing pickles. We bleach by setting tiling over it when grown. We place on the pickle dish pretty moss endive, then the dainty cucumbers and serve with a goldtined pickle fork. In canning pickles we never use preservatives nor coloring matter, but sometimes I use cinnamon, taragon or mace. Cloves turn them too dark.

Mrs. Ellmer Greene, Peggy, Mo. — In a clean jar, keg or barrel make a brine so strong that some salt will not dissolve, which is all we use to preserve them. Pick your cucumbers late in the evening or early in the morning before the sun gets on the vines and never allow one to ripen. As soon as picked wash them in cold water and put at once in brine. As you add more pickle add more brine, being sure to add more salt than the water will dissolve. Put a wooden cover on them and weight it to keep them under the brine. Tie a cloth securely over the barrel. When ready to use soak in water about 48 hours (twenty-four hours in hot weather), changing water three or four times, then put in good vinegar and set in a cool place. This is for use in winter, spring and early summer when we have no fresh ones. When we have fresh ones we put them in vinegar after washing without brine. Leave a little stem on each pickle and it will not bruise. Our pickles are admired by all who eat them.

Miss Sophie Markwood, Fairview, Pa.—Get nice medium size cucumbers, wash and put in a gallon jar, add a large spoonful of salt. Cover with boiling water and let stand over night. In the morning put the contents of the jar in a kettle and bring it to the boiling point. In some good vinegar put a small stick of horse radish and a tablespoonful of sugar for each can of pickles. Put this on and boil for five minutes. Then put the cucumbers in cans and seal. This amount of cucumbers will make three cans of pickles. I have made these pickles for several years and never had a can spoil.

Mary W. Harmon, Ogdensburg, N. Y. — I pick my cucumbers every other day, not letting them grow larger than a man's finger, except those I want for ripe ones. Wash them and place in brine made with a pint of salt to each pail of water and if the barrel is not already salt, allow a pint for that. Stir them well every time fresh ones are added, and if at any time any feel soft or slimy add more salt, for they are not salt enough. Place a cloth over them with a board and stone on top to hold them in the brine. In the winter when I wish pickles I take them from the brine and pour boiling water over them after cutting the stem end off and cutting in two pieces if they are too large. Repeat the boiling water until fresh enough to suit the taste. Then for three quarts of vinegar add two handfuls of whole cloves and two of stick cinnamon, and placing the whole on the stove let boil until the pickles are tender. If you wish sweet pickles add three pounds of sugar to the above and everyone thinks they are delicious. For sweet pickles made from ripened cucumbers, I pare, seed and cut in pieces about two and a half inches by six inches. Place in a jar with a pint of salt, but no water, to a three gallon jar of pieces. Let stand twenty-four hours and drain the water off and place pieces in a granite pan in clear water and let boil until you can pierce the pieces with a fork, lifting each piece out as soon as done. Drain and make ready a pickle consisting of these proportions: 3 quarts vinegar; 5 pounds sugar (maple preferred); ½ pound stick cinnamon; ¼ pound whole cloves and one large green pepper. Boil this and then place pieces in and let boil for about a half hour and place in jars. I pour off the vinegar two or three times and heat and pour over the pickles again letting two or three days intervene. These pickles will keep for an indefinite time, if you can keep them, but with us they disappear all too quickly.

Mrs. G. W. Ribble, Hettick, Ill.—Pick cucumbers early in the morning, wash well and place in stone jars, using a four-gallon jar for three gallons of cucumbers. Put in about one-third of cucumbers and cover with horse radish leaves and a few sprigs of green black mustard pods. Put another layer of cucumbers and treat as the first, and after the last layer of cucumbers has been covered with horse radish and mustard pods, for each gallon of cucumbers add a tablespoonful of salt and cover with cold water. Let stand for three days in a moderately cool place (I use the cellar). Then take out, wash and pack in glass fruit jars with a tablespoonful of mixed spices on the top (of half gallon size), cover with boiling vinegar and seal tightly after steam has escaped from the jars. I usually put a tablespoonful of sugar to each half gallon, but those desiring very sour pickles omit the sugar, while for sweet pickles add more to suit the taste.

Mrs. S. P. Yoder, Denbigh, Va.—Put your pickles in salt water over night. Then put a spoonful of mixed spices and two onions, cut through several times, in enough good sour vinegar to cover pickles and boil 5 minutes. Then put your pickles in with the contents and just bring to a boil, then put in jars and seal. If you prefer them without onions you can leave these out. I leave the small pickles whole, and the large ones, or such as are not nice to can whole I cut through twice lengthwise, and if too long once crosswise. Try this; they are excellent. By using this method you will not only have use for the real small ones but can use the large ones too.

Mrs. G. A. Shippy, R 4, Lena, Ill.—We gather the cucumbers when from two to three inches long. At once wash them and put them in rather strong salt water over night. The next morning put them in earthen jars or crocks with a pint of sugar to a gallon, a tablespoonful of black pepper, ground, with good vinegar enough to cover them well. Then set on stove and heat gradually until vinegar is hot enough to steam. Take from stove and immediately put in jars and seal. For sweet pickles, as all other sweet pickles, we use as much sugar as vinegar, one quart sugar to one quart vinegar, with one tablespoonful of mixed spices per quart, tied up in a loosely woven cloth put in vinegar with sugar and boil. Then put in cucumbers to heat the same as in sour pickles. We pickle ripe cucumbers in this way after paring and quartering.

Mary E. Smitz, R. F. D. 2, Linn, Kan.—Gather small cucumbers in the morning. Wash and put in brine and let stand till evening. Rinse and put in vessel they are to remain in. Heat cider vinegar with mixed spices and a small lump of alum. When it boils pour it over the cucumbers and put on a weight to keep them under the vinegar. In adding more pickles I add more hot vinegar. Another way is to put a layer of salt in bottom of keg, and then alternate layers of cucumbers and salt and cover with grape leaves on each layer of pickles. When wanted for use, pour scalding water over them, and change the water till freshened, and then pour the scalding vinegar over them. For sweet pickles let stand in weak brine over night. Heat syrup of two cups of sugar to one of vinegar, adding spices tied in a bag. Boil and pour over the cucumbers. Repeat for three mornings, and on the fourth morning put all in a granite kettle and boil till clear. Put pickles in jars and boil the syrup down one-half and pour over them. Keep in cool place.

Mrs. A. E. Tinkham, N. Scituate, R. I.—Put small cucumbers in a tub and cover with boiling brine, 1 gill of salt to 1 gallon of water. Let stand till cold. Heat the brine again and pour over the cucumbers. Do this five times. Then turn off and cover with boiling water with a heaping teaspoonful of alum to the gallon. When cold turn off and boil again and pour over the cucumbers a second time. When cold, pour off. Put a few quarts of cider vinegar in a porcelain kettle, and when it boils drop in a few cucumbers at a time and let them boil eight minutes. Skim and drain. Lay them in a stone jar and cover with good cider vinegar.

Mrs. T. A. Shuff, New Berlin, Ill.—Pick regularly and pack in earthen jars in alternate layers of salt and cucumbers, weighting to keep them under the brine. To pickle, soak in clear water, changed twice a day till but slightly salty. Place in kettle and cover with cider vinegar and boil till they can be pierced with a straw. Drain well and cover with fresh vinegar. To every gallon add 1 pint of brown sugar, 1 tablespoonful of cinnamon, 1 of cloves and 2 of mixed spices. There must at least be small red peppers, celery seed, mace, white mustard and allspice. Bring to a boil and put in self sealing cans with a few slices of raw onions between each layer and a spoonful of horse-radish in each can. When full, pour over the hot spiced vinegar and seal.

Mrs. Maggie Ritchie, No P. O.—I always plant my cucumbers in the moon. That is, I plant them in the twins, and always have a good crop if the weather is suitable. For pickles I plant cucumbers in the twins in June, as I find this a good time. Pick the small ones clean every day. Wash and pour boiling water over them and let lie till cool. Drain and put them in a barrel or crock and cover with salt with no water. The scalding makes them tender and crisp when freshened. Wash and freshen in cold water as wanted, and place in cider vinegar with a few onions sliced. The onions prevent vinegar spoiling.

Mrs. Wesley C. Richards, R. F. D, Carleton, Mich.—First, for pickling I prefer Maule's Cool and Crisp cucumber. For sour pickles I find the following method the best, as they are easy to prepare, always ready for use and will keep crisp and nice until the last one is used. To each gallon of good cider vinegar add one teacupful of salt and one teacupful of pure dry mustard. Pick cucumbers with short stems, wash, drain, put into your prepared vinegar. You do not need to have all the cucumbers at once, but can add to them. The above amount of vinegar makes three gallons of pickles. Keep in crocks well under the vinegar. For sweet cucumber pickles, pick the cucumbers while small, wash, pour a weak, hot brine over them, let stand over night; drain, then put in granite kettle sufficient vinegar to cover pickles, add sugar and mixed spices to suit taste. Put on range and just before reaching the boiling point remove, put pickles in cans, crowding closely as possible; fill up with the vinegar. A piece of horse radish in top of each can prevents vinegar from dying. Seal cans as for any fruit, and these will keep indefinitely.

Mrs. S. M. Laws, Hillsboro, N. C.—Stick fork holes in one peck of small cucumbers, sprinkle over them one pound of sugar; add one ounce of white mustard and one dozen pods of pepper (green preferred) cut fine. Boil enough good vinegar to cover, pour over the mixture, let stand until cool and put up in jars.

SUMMARY.

It seems almost presumptuous for the Editor to say anything on the subject of pickling. Therefore, we leave these numerous recipes for the ladies to talk over. Mrs. Ritchie says that she "always plants in the moon." We always prefer the garden, and never ask the permission of the "twins." In fact we do not suppose that the "twins" take any notice of what you are doing in the garden, and the only use we ever saw for them is to help worry the man in the medical almanacs. If the ground is suitable and the manure plentiful, and the weather all right you will get just as good and as many cucumbers planted at the proper season of the year whether the moon is new, full or dark, for neither the moon nor the twins have anything to do with the growing of cucumbers. We always have plenty of cucumbers and it never occurred to us to notice whether the moon approved of our planting or not, or whether the twins were agreeable. Does our lady friend live in the moon? She gives no postoffice on earth. It is awfully dry down here just now, and the cucumbers need rain. It must be worse in the moon, for they say there is no water at all on that satellite. But all joking aside, we hope that our friend will try good soil, well manured hills, and then try what the difference is between regarding the moon and twins and disregarding them. We think she will find that the weather here on earth, and the treatment given the soil, have more to do with success than observing the phases of the moon.

Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

The Darkey and the Disk.—About this time last year I started in to prepare a piece of land for late vegetables. It was literally matted with small roots, such as huckleberry or whortleberry. I started the colored man to breaking it up with a single plow. But I soon saw that I would have left a strip of turf about 6 inches wide almost the entire length of the field. I told him if there were no better way than that we would stop until those roots rotted. I had a Morgan spade disk harrow with me and told the darkey to hitch to it and see if it would not beat the plow, and if it did, why no person would know it, and we were a considerable distance from any road. So he hitched up to the spade disk and went at it, and such another spell of popping among those little, old tough roots you never heard. It just tore them all to pieces, and in less than half the time it would have taken to break the land with the plow. We had it as loose as ashes 4 or 5 inches deep, and could then plow it with anything we wanted to use. Last fall I planted nearly two acres of new ground in turnips and never used a plow in it except to lay off the rows, and it produced fine turnips for an orphanage family of 120 children. I use the solid disk harrow on smooth land and where there are pea vines, but prefer the spading harrow on new land where there are many small roots, turf, etc.

Barlum Springs, N. C. N. W. JOHNSON.

Wood Box. — While strictly speaking a wood box may not be considered a farm implement, yet I send you a sketch of the most convenient wood box that I have yet seen. Fig. 1 shows an end view; Fig. 2 a front view. A is the top or deck, which may be used to lay things on. B is a shelf with board 4 to 6 inches wide in front, as shown, making a little box or bin to put the kindling wood in. C is the main part of the box for wood. The ends, deck and front may be made of beaded ceiling, nailed to cleats on the inside. If it is neatly put together and painted, it will be much more of an ornament to the kitchen than many of the rough boxes so often used. Make it of any size desired.

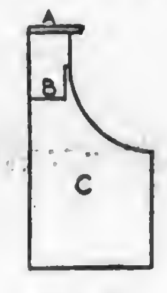


Fig. 1

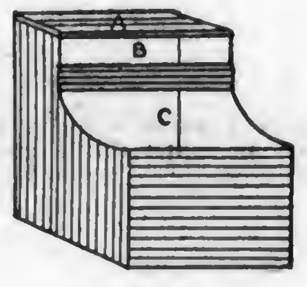
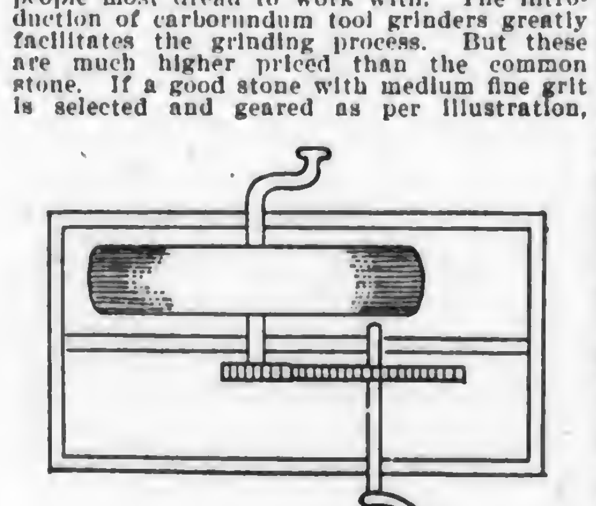


Fig. 2.

McBrides, Mich. EDWIN HUNT.

Geared Grindstone.—Of all the implements on the farm, the grindstone is the one people most dread to work with. The introduction of carborundum tool grinders greatly facilitates the grinding process. But these are much higher priced than the common stone. If a good stone with medium fine grit is selected and geared as per illustration, it will reduce the drudgery of tool grinding 50 per cent. The two cog wheels and the extra shaft may be procured from an old binder or reaper. The greater the diameter of the large wheel the greater number of revolutions of the stone you will get with one revolution of the crank.



McCreary, Ky. HOMER TINSLEY.

[No doubt the gearing would work first-class with a stone of small diameter, but we do not think it would work successfully with one of large diameter, as it would consume too much power.—ED.]

Improving the Weeder.—I have a Hallock Success weeder which I greatly improved by putting behind each row of teeth a strip of white oak 1x2 inches. I put them just under the cross-bars which hold the weeder together, securing them with some wire. I had some corn in tough clay land that had run together, so I shifted the shafts on the inside of the uprights, fastening them together at the point with a bolt and gooseneck from my hay rake; slung a doubletree with chain to middle of one of the "T" irons to which the teeth are fastened. [In the weeder which we have the teeth are attached to "L" irons and not to "T" irons.—ED.] I then put in two light horses, got on top of the weeder and harrowed 15 acres of corn. The way I tore up that crust was a caution. Although I weigh 148 pounds I did not break a single tooth. Of course I lifted the weeder around at the ends and over any small stumps and was careful with it, but I stood on it while harrowing the entire 15 acres of corn and it came out all right.

Prentiss, Ky. J. P. AUSTIN.

Fastening Doors Open. — Often doors are broken by not being fastened when open. So I have straps to fasten all the small doors when open, that the wind may not blow them shut nor slam them. For the large barn doors I have hooks for each to fasten it when open. Accidents often occur to people and stock, as well as damage to the doors by simply opening them and trusting them to stay open. Have some way to fasten your doors when open. J. NEWTON GLOVER.

Vicksburg, Pa.

Apparent Extravagance.—It appeared extravagant to some of my neighbors last spring when I set aside my old cotton planter and bought a new one, the old one still doing average work, but not planting the seed quite deep enough. The new one plants about 2 inches deep, which is about right for cotton seeds. I now have a perfect stand of cotton on 32 acres of land, while some of my neighbors have poor stands from planting too shallow. When comparing perfect work with shoddy, the apparent extravagance of good tools sinks into insignificance indeed.

Loyd, N. C. C. W. BEAM.

The Plow Hoe.—Having a small garden spot and no horse, we cultivate with hand tools. We use a light, strong, sharp hoe, a rake, a 4-pronged potato digger and a heart-shaped hoe which our blacksmith made. This last is about the handiest tool on the place. It is about 6 inches wide by 8 inches long and is slightly curved, something like a cultivator shovel. It is fine for opening furrows and cultivating between the rows? Children twelve and fourteen years old can use it and they think it much nicer to plow with a plow hoe than to use the ordinary hoe. But it cannot be used in weedy ground. If we ever let the weeds get started we have to cut them off with the common hoe. We have tended good large potato patches with no other tools than a rake and the plow hoe after the ground was well prepared, opening the furrows with the plow hoe deep enough to plant the potatoes.

Eldorado, Ill. MARY MURPHY.

Cultivator Harrow.—After giving my early potatoes one good, deep working I began to cast about for some tool with which to cultivate shallow. My hand implement was too slow and laborious for a large patch. Finally a neighbor boy with whom I was talking about it, said, why not take a section of his father's old harrow. This implement was one the farmer brought nearly twenty years ago from Kansas. One section of the three-section old harrow made an excellent little one-horse cultivator and enabled me to keep nearly all weeds down notwithstanding we had over a week of wet weather; also to preserve the moisture during the long drought which followed. The only guiding apparatus was a ¾-inch rope tied to rear of harrow and held in the hand, by means of which I could hoist the little implement over the rows at the end and guide it close to the row. J. F. WILLIAMS.

Findlay, Ill.

Dust Board.—Use one of these behind your plow and you will be surprised with results in dry weather. Fig. 1 shows the dust board and Fig. 2 plow stock with board attached. The two irons shown attached to the board are bolted to the plow beam, one on either side. The board should be 25 inches long, 6 inches wide and one inch thick. Try it, brother farmers, save your crops in time of drought and rejoice.

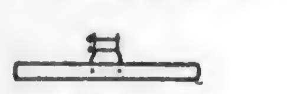


Fig. 1

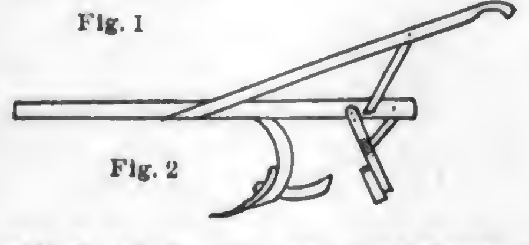


Fig. 2

Gainesville, Ga. WATSON L. ROPER.

Pigs At Weaning Time

Stand a chance of slow development for a time. Grain or sour milk is harder to digest than the milk of the dam. The digestive organs require special aid at this time. As the feeding period of the hog is short—and the shorter the better—it is expedient to strengthen and build strong every digestive organ while the pig is young. Dr. Hess Stock Food, the great hog tonic, makes pigs grow fast, healthy and strong; expels worms, aids digestion and assimilation and causes all of the nutrition to be applied to bone and muscle building. Stewart, the great American authority on feeding, says:—"The mother is supposed to impart to the young her own digestive system." It is, therefore, important that even sows should be fed this scientific compound that they may impart perfect digestion to the offspring. A penny's worth feeds 8 hogs. Feed Dr. Hess Stock Food regularly as directed disinfect the pens and feeding places with Instant Louse Killer, and we guarantee that your hogs will be free from disease. E. C. BURLINGAME Co., Walla Walla, Wash., write: "Enclosed find check for $25.00. Please send us 500 lbs. of Dr. Hess Stock Food. We want something to start our young pigs when they are being weaned. We used 300 lbs. lately and liked it very much."

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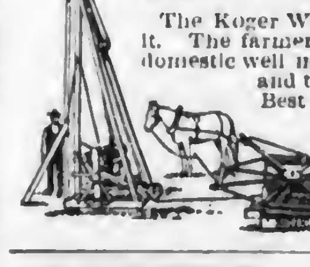

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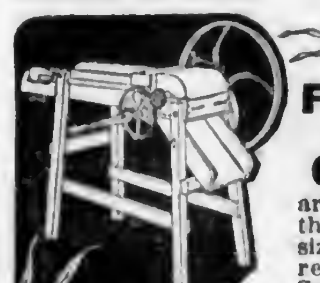

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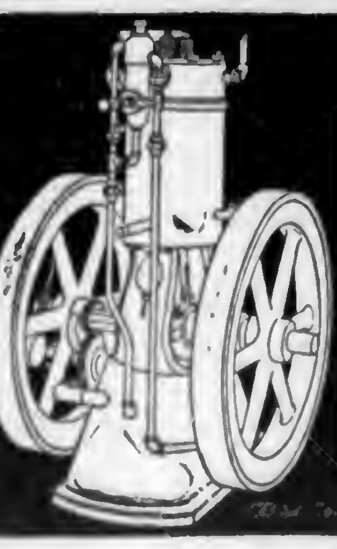

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the *best* contribution and 25 cents for each other contribution published will be paid to P. F. yearly subscribers. *Only* helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Hog and Fodder House.—A great deal of success on the farm can be had by having things handy. I will give a little description of a combined hog and fodder house which I have just about completed and can fully appreciate in muddy weather. The location being first to speak of, I have built it in one corner of my orchard in such a manner as to turn directly into orchard, cattle feeding lot or barn lot. It is 18x30 feet in size, 14 feet high, lower part 6 feet and top 8 feet to eaves. I have an alley running through centre 3 feet wide. One side is divided into four stalls about 7½ feet square. The partitions being hung on hinges can be swung back against wall and used as a feeding floor; when closed may be used for brood sows. The other side is arranged the same except one stall is used for storing grain and feed. At the top of each stall I have a long door about 2 feet wide, to let sun in. These doors are hung in such a way as to be raised from the inside and fastened with a catch to joist overhead, and can be let down by pulling a string from alleyway. The upper part is used for shredded fodder, which I consider the best material for bedding purposes. This size of hog house I consider large enough for an 80-acre farm. It can be made larger or smaller according to size of farm.

R 3, Rushville, Ind. NEWTON P. JONES.

How I Saved my Tomato Plants.—Being compelled to break the ground wet, I, of course, had clods to contend with, but as my plants were about ready to bloom I began setting out May 11th. I set more the next day (Tuesday) as I had time at the end of my day's work (gardening is only incidental with me) and so on through the week. Every day it looked quite rainy and often sprinkled just a little, but my plants withered in those clods and some few actually died. In setting I made a hollow among the clods, laid the plant in, poured on nearly a pint of water and firmed soil around it. But by the next evening many of them looked very much withered and had to be given a drink. So I carried water from a nearby schoolhouse and poured nearly a pint into a little hole beside the plant; or if very weak I removed dirt all around it, replacing again to prevent baking. No rain of any consequence fell till about the 25th of May, but my plants were struggling bravely along and ready to grow the better when the rain came. So I have about 500 plants, many ready to stake, while most of my neighbors are still inquiring in vain for plants or sowing seed to raise them. F. WILLIAMS.

Findlay, Ill.

Oust the Sparrows.—During the winter a flock of English sparrows are to be found near every home and they become quite tame. By taking concerted action at this time the pest can be almost entirely destroyed. It must be done in winter, however, when other birds are absent. Just place a few choice bits of food in the same place for several consecutive days so they learn to come there to feed. Then give a feed soaked in strychnine water. If a few tough old customers survive the poison shoot them and the useful birds will soon discover the absence of their enemies. The glad news will then be spread among the friends in hiding and you will soon be surrounded by your old-time friends. J. N. ORR.

Rochester, Ind.

Pigs and Potatoes.—One of the greatest mistakes we have made lately was in feeding four young pigs together. One being rather small and weak, and the others strong, the weak one was easily crowded out and did not get enough to eat, nor its share. We did not know this until one very chilly morning piggy was too weak to eat and was lost. Another mistake was in not putting up a few bushels of sweet potatoes last winter when they were selling at from 40 to 75 cents per bushel to sell for bedding purposes in the spring at from $2.50 to $3 per bushel. Or we might have bedded them ourselves and sold the slips at 25 cents per hundred, plants of all kinds being high here. We might have sold several dollars' worth. MAUD CLINE.

Ardmore, I. T.

To Set Trimming on Waist. — Now that it is so stylish to have one's waist so much trimmed, I have sometimes found it somewhat difficult to get the trimming on just right without a dress form, and as I do not have a form, I have been right successful in using a feather pillow. I stand pillow on end and put its corners through armholes of waist. I then arrange trimming, pin in place, remove waist and baste trimming on. If pillow is too large wind a string around it until it is small enough to fit waist. I have found this a great help.

Cleveland, N. C. MRS. CORA B. EATON.

Plowing up Swales.—Being greatly interested in the problem, "How to Prevent Land from Washing," I have observed a mistake which is made by nearly every farmer hereabouts; one that I have been guilty of ever since I have been farming, save in a very few instances. That is the plowing and cultivation of sags and narrow hollows that are inclined to wash, and even where washes have been and are sodded over. It is troublesome to plow a field and leave these places unplowed, but I have determined to do it hereafter. I find red top the best grass for such washy places. Be sure to leave the space wide enough lest the water cut and gully on either side of the unplowed strip. I have made this error in most instances where I have left washy land. It looks like a loss to not cultivate this land, for, as a rule, it is the best, but until there is a sufficient amount of humus in the soil to hold the rain that falls, it should be left.

Bentonville, Tenn. S. B. FICKLE.

How to Plant Potatoes.—If potatoes are cut and left in the sun to dry thoroughly before planting they will not rot and will make much thriftier and stronger plants. It is always better to sprout them before planting. For early potatoes you will gain from three to five days by laying them in some warm place for a few days before cutting them. Spread out and cover lightly with straw or burlap and keep moist. When planted they should be covered lightly at first and gradually hill up as they grow. We have always raised large ones when planted in this way; once raised one which weighed 8½ pounds.

Cure for Horse Colic.—Here is something which every horse owner should know. You can cure a horse of cramp colic, caused by indigestion, in 15 minutes; it will cost you nothing and you always have the remedy at hand. Pour 4 to 6 buckets of cold water over the kidneys of the horse and he will be well inside of 10 or 15 minutes. You need not take him from the harness. I have tried this remedy and seen it tried by others and have yet to see it fail to give immediate relief. N. E. CARPENTER.

Malott, Wash.

Too Much Guessing. — Almost anyone can enter a guessing contest, but the number of guesses exhibited by the farmer in the course of a year upon his farm would far outnumber them all. Should the judges place awards for the greatest display, the farmer would no doubt win first prize. But guessing is very risky and the farmer loses thousands of dollars every year because of his guessing. It is doubtful whether any other class of business men guess so much. Guessing is, in one sense, a lottery, there being many competitors, but very few winners. If practice would make perfect in this, the farmer would be a perfect guesser. He plants his field to corn and guesses the soil is rich enough without manure or fertilizer to produce a pretty good crop of corn. But he finds that guessing the soil was rich did not make it so, and, as you might suppose, his crop of corn was light. The farmer guesses that scrub stock sells for as much as pure bred, so he raises scrubs, but soon finds he cannot get the prices that his neighbor who raises pure breds, does. He guesses at the amount he feeds his stock, saying there is no use in being so particular as to the quantity each animal receives. He guesses that corn is the food to feed his horses to make them strong and that oats is all right to put on fat, when it is exactly the reverse. He guesses that hay is the best food for milch cows for roughage and corn for grain; guesses that silage is no good; guesses that he gets as much milk from his cows as his neighbor does, but does not know, as he only guesses at the quantity they each give, and guessing is very uncertain, you know. He guesses there is no use in having too fine buildings; just a common stable is good enough for his stock, and guesses that his wife can get along without a sink in the kitchen, although she pleads for it as only a loving wife can. More than this, he guesses there is no use of being so stuck up and going to agricultural colleges; in having improved farm machinery, an Experiment Station in every State, etc. He guesses that if men nowadays would farm as his great grandfather did they would be more successful.

Upton, W. Va. H. RAY MERCER.

Canning Apples.—As either my husband or son has taken the P. F. for years, may I tell the sisters my way to can apples? So many complain of their inability to keep them. In preparing I take care if the apples, or other fruit have decayed spots, to cut out a thick piece of good with the rotten, as it is easy to spoil the flavor of a whole mess by using one or two overripe, etc. When I put them over the fire I put in plenty of water and as they boil I skim off the bubbles; if needed I add more water. I do this until few if any bubbles rise. If the apples do not cook evenly I take my wire potato masher and mash the lumps while over the fire, then can. I do not like them too thick. I sweeten when I use them, beating the sugar in hard, which gives them a fresh appearance, and they can scarcely be told from those just stewed. I have kept them for several years and seldom lose a can. I screw the tops on as they cool. The foam skimmed off can be used for jellies. All other fruit I can as soon as the fruit settles; the air is out then and the flavor is injured by long cooking. Have jars ready beforehand. MRS. A. D. FISKE.

Tuckerton, N. J.

Fit the Collars. — I have often seen horses working in loose-fitting collars; I always try to have the collars fit snug, not too tight; then be sure to keep the horse's breast clean in warm weather when the sweat dries on. I wash the collar clean while the team is resting and wash the breast of the horse before the sweat dries on. If proper attention is given this matter, rarely will the horse's breast get sore. Of late years I have used sweat pads; they seem to protect the shoulders. These pads must be kept free of dried sweat if possible. If the breast should get sore, put a very small quantity of tannic acid in a quart of water and bathe the parts three times a day. Wash clean before bathing. Never apply raw turpentine to any sore on your horse. My father once applied turpentine to one of a team that I was driving and it made the animal crazy with pain. Some use white lead, but I never tried it.

Bedford, O. C. W. KELLOGG.

Colic in Horses.—A number of years ago I learned from a horse doctor to give horses having the colic a dose of lard and salt; melt the lard and dissolve all the salt in it that it will take up, then drench the horse with it. Since then I have cured a number of them by so doing. About three years ago a number of horses in this neighborhood died of indigestion. I had a valuable mare get off her food; she would turn her head, look back at her flank and seemed in great pain. I thought it indigestion. I got my lard fixed, using about one pint, drenched her and in a day or two the mare was all right. One of my neighbors had a valuable mare get sick the same way. He let her go a day or two then sent for the doctor, but it was too late; the mare died. The doctor said to him: "If you had given that mare a dose of lard and salt when you first saw her sick, you would have saved her." In severe case of colic I also inject a lump of lard into the rectum. B. F. CROUCH.

Fairbury, Ill.

Things Worth Knowing.—Before using new enamel cooking utensils grease inside with butter; this prevents cracking and chipping. For fish bone in the throat swallow a raw egg immediately. To freshen a room that is close and stuffy from tobacco or otherwise, place a half ounce spirits of lavender and a lump of salt of ammonia in a wide-mouthed fancy jar or bottle and leave uncovered. This is a very pleasant deodorizer and disinfectant. Badly tarnished brass may be cleaned with ease if it is first rubbed with salt and vinegar or oxalic acid. Follow with a good washing in soap and water, then polish with any of the cleaning preparations on the market. E. H. KEOHAN.

Waddington, Cal.

First Experience with Turks. — On Thanksgiving Day, 1901, I bought a gobbler and four hens. In April the hens began to lay. We set some of the eggs under chicken hens, but saved the most of them to set the turkey hens. They kept on laying until the four had laid 153 eggs. The eggs failed to hatch well, possibly from being kept too long. The last hen turkey that we set in the woods was carried away by a fox; the gobbler was taken sick and died; a neighbor killed one hen. Out of about 50 young turkeys that were hatched we had about 10 young ones and two hens when we sold them in October. We received for them $5.20, which was 10 cents more than we gave for the stock to start with. I think our failure was mainly due to two causes, viz., a wet season and the fact that our stock was full brother and sisters. L. G. MOYER.

East Lemon, Pa.

For Plowing.—In plowing always aim to turn all weeds or trash completely under. Often it requires a long chain attached to the double tree, curving back and brought forward and attached to the plow beam. Weeds several feet tall can be completely turned under in this way. It does not add perceptibly to the draft of the plow. It requires no extra attention from the plowman, yet it performs the work in a most satisfactory manner. It is readily attached to any two-horse plow. L. F. KIRKPATRICK.

Mooresburg, Tenn.

Care in Buying Stock.—I wish to say a few words in regard to farmers buying stock of all kinds. It is not always possible to be sure that the animals purchased are not afflicted with some contagious disease or pest, as sheep with scab, ticks, or foot rot; hogs with lice or cholera, etc. It is, therefore, a good plan to have a lot fenced off to itself, and enclose newly purchased animals for some time before turning them with other stock in the pasture lot. Of course, care should be used in buying, but it is entirely possible for the most careful to be taken in. But if kept in a separate lot and watched for a few days one is pretty apt to detect anything wrong, and in this way loss and trouble may be avoided. Indications of disease in sheep are pale skin and yellow eyeballs. Skin should be bright pink. Drooping ears and hanging head are signs of disease. In selecting sheep for vigor see that they have a good large chest and clear eye. Age of sheep is easily told. Yearlings past have two large incisors; two-year-olds past have four; three-year-olds past, six, and four-year-olds eight. After that the two middle ones wear down first, and a sheep showing wear on all eight teeth is at least eight years old, and begins to be unprofitable.

Fisher, Ore. THEO. CRANZ.

THE CAMEL'S HEAD.

"Where the camel's head goes his body follows," says an Oriental proverb. It's the same way with disease. A small opening will give it an entrance and when disease once has a place in the body a large number of ills may follow it.

The opening for disease is often found in a "weak" stomach. When the stomach is "weak" the body also becomes weakened by lack of nutrition, and disease attacks the heart, liver, lungs, kidneys and other organs.

Dr. Pierce's Golden Medical Discovery makes the weak stomach strong. It cures diseases of the stomach and other organs of digestion and nutrition, and so enables the body to resist or throw off other diseases.

Men and women who are sick are invited to consult Dr. Pierce, by letter, *free*, and so obtain without charge the opinion of a specialist on their ailments. All correspondence strictly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y.

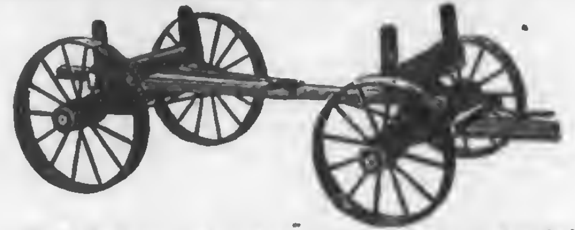
"For the past two years I have been a very sick woman," writes Mrs. Chesley, of 108 Woodland Ave., Cleveland, Ohio. "I tried medicines from doctors and to no avail. At last I decided to try Dr. Pierce's Golden Medical Discovery. When I started I was all run-down and had a very unpleasant taste in my mouth. Was choked up, and at times it was very hard for me to breathe. I had severe headaches and cutting pains in my knee joint. Was so weak I could not attend to my work nor walk up or down stairs without the assistance of my brother or some friend. I am now taking the fourth bottle, and am happy to say I feel like myself again. I can go up and down stairs and perform my duties as well as any one. Everything seems to be brighter, and I can assure you that life is worth living."

Accept no substitute for "Golden Medical Discovery." There is nothing just as good for dyspepsia or debility.

Biliousness is cured by the use of Dr. Pierce's Pleasant Pellets.

Farm Wagon only $21.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only $21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

"During the ten years that I have been a subscriber to the P. F. I have obtained information of priceless value, and the farmers here who are making the most progress in agriculture are readers of your paper. I will gladly distribute as many sample copies as you care to send, and will try to increase the sub. list."—Will. R. Knox, Intercourse, Pa.

DRILL WELLS Write for particulars of best improved well machinery. LOOMIS MACHINE CO., TIFFIN, OHIO.

GEM FULL CIRCLE STEEL BALER Lightest, Strongest, Cheapest. GEO. ERTEL CO., QUINCY, ILL.

SAMSON Galvanized Steel Wind Mills Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

Apples turned into GOLD

If you raise apples—few or many—send for our booklet "Turning Apples into Gold" and see how you can do it.

Goodell Company, 50 Main St., Antrim, N.H.

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ENSILAGE MACHINERY

When you buy the ROSS you buy the best

Your choice—Blower or Carrier.

Write for Catalogue No. 43—FREE. Prof. Woll's Book on Silage 10c.

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WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

Best Machine on the Farm

PENNSYLVANIA LOW DOWN

Farmers who have used the

Improved Low Down Pennsylvania Force Feed Fertilizer Grain Drill

will use no other kind. The general verdict is that it is *the best machine on the farm*. Made in various sizes with either hoe or disc. We will send you FREE a special book telling all about it and what it has done to make better paying crops. Adapts itself to all conditions. Address

A. B. FARQUHAR CO., Ltd., York, Pa.

OUR PREMIUM DEPARTMENT.

HOT WEATHER THOUGHTS.

We have arranged for a special club premium for the boys which we are sure will be popular with them. It is a first-class rifle, described on this page. We will give one absolutely free to anyone sending us a club of 15 yearly subscriptions to the P. F. at 50 cents each. The club raiser to pay the freight on the premium. The rifle is first-class in every respect, made by one of the leading gun manufacturing firms in the country and is bound to give satisfaction. We have had several inquiries about a premium of this kind and believe this will meet with hearty aproval. It is not a cheap toy affair, but a first-class single barreled, breech loading hunting and sporting rifle. Now, boys, send for free sample copies of the P. F. and make up these 15-name clubs and get your guns ready for the fall hunting.

It takes one of the hot days incident to this season, to put emphasis on the necessity for a Wickless Oil Stove in the farm kitchen. Female help is scarce, cooking for the extra farm hands must be done on time, and every aid for the busy housewife that can be had should be. Comfort in the kitchen is one of these aids, for it gives vigor to the steps and softens the temper—and that comfort can be secured through the medium of one of our Blue Flame Wickless Oil Stoves. The illustration on this page shows the largest size made, large enough to cook for the biggest family, with the hired help thrown in. Other sizes, not illustrated, with two and three burners, will meet the requirements of smaller families. Any of them will do perfect work, better than the coal or wood range with its maximum of heat and minimum of comfort. At the prices quoted, these comfort breeders are within the reach of every farmer, and we may add, should be in every farm kitchen. Note the prices, from $7 to $13.25, without oven, the latter costing from $1.50 to $2.75. This includes freight prepaid to any R. R. Station east of the Rocky Mountains, and we guarantee that the stoves will give satisfaction. If there is any P. F. family without an oil stove, they certainly should have one, and have it with a rush.

If the old sewing machine has seen its best days and is getting wobbly, why not retire it? It has earned a rest. We can supply you with the best in the market Either the high arm at $19.25 or the drop cabinet at $19.50, illustrated on this page, will please the housewife who does her own sewing. You can pay an agent fifty dollars for a machine, and after you get it you have no better one than the P. F. Sewing Machine and you are about $30 out on the deal. We pay the freight to any R. R. station east of the Rocky Mountains, and guarantee satisfaction or your money back. We couldn't do that on an inferior machine; we'd be loaded up with returned ones.

Something for the Boys

We want the boys to go to work for the P. F. and here is their chance. We have selected one of the

Best Rifles

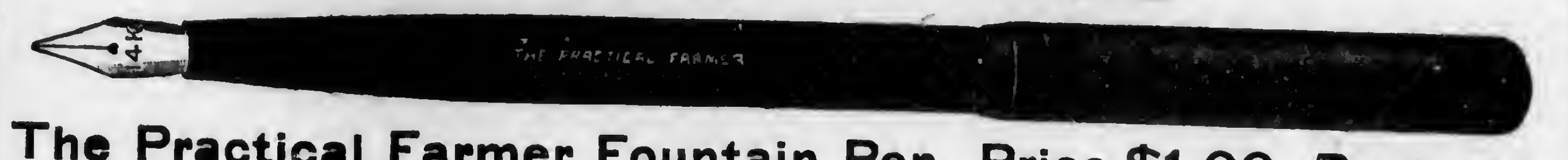
Made by one of the most reliable companies in the United States, as a premium. The barrel is standard length, case hardened frame, single trigger with oiled walnut stock and rubber butt plate; the whole weighing 3¾ lbs. It has an automatic kicking ejector, doing away with the operation of picking the empty shells from the chamber. The rifle can be "taken down," so as to be carried in a trunk, grip or small package. In a nutshell, just the thing for the boys. We will give one of

THESE RIFLES FREE

for a club of 15 yearly subscriptions to the P. F. at 50 cents each. The club raiser must pay freight.

Send for sample copies and start in at once, so as to get a rifle for the fall hunting.

ALWAYS ON HAND



The Practical Farmer Fountain Pen, Price $1.00, Postpaid. Guaranteed the Equal of any $2.00 Fountain Pen Sold.

The ink does not dry in the pen; it can be used one day, laid aside for a week, and is then ready for business instantly; no soiling of the fingers; best gold pen and point; hard rubber holder; fully guaranteed in every respect; money back if not satisfactory. Plain or Stub point, as desired.

We will send the P. F. for one year and a Practical Farmer Fountain Pen for only $1.25; less than you would pay for the pen in any store. One of these pens FREE for a club of six yearly subscribers to the P. F. at 50 cts. each.

Save Money and Keep the Kitchen Cool by Using

WICKLESS A Practical Farmer Brightest and Best, Blue-Flame **OIL STOVE**

The illustration shows the popular high cabinet style with step. Those who prefer this stove without the step will be suited by No. 453 and No. 452. Where a low cabinet stove is wanted, No. 353 and No. 352, specially designed for limited space, without step or shelf, and only 15 inches high, will give the best satisfaction possible.

Prices include prepaid freight charges East of Rockies. West, add $2 for extra freight charges.

For further information write for our illustrated price list of stoves and ovens.

GIVES MORE SATISFACTION THAN ANY OTHER STOVE.

The stove recommended by Mr. Terry.

Stove and oven delivered, prepaid, East of Rockies, for 50 subscribers at 50 cts. each.

BRIGHTEST AND BEST

OIL STOVES SAVE HEALTH WORK TEMPER MONEY

Satisfaction always guaranteed

The above illustrates Wickless Oil Stove No. 465. Price, $13.25.

Nos. 453 and 452 are same style as Nos. 465 and 464, but have no step burner. Height, top and dimensions the same.

Stoves handsomely finished in black enamel, with trimmings heavily nickeled.

No. 465. Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 100 pounds (see cut). **Price, $13.25; with oven, $16.00.**

No. 464. **Three burners.** Height, 28 inches; top, 18x25 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 85 lbs. **Price, $11.75; with oven, $14.50.**

No. 453. **Three burners.** Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; Weight, crated, 75 pounds. **Price, $10.75.**

No. 452. **Two burners.** Height, 28 inches; top, 18½x26 inches; shelf, 7x22 inches. Weight, crated, 60 pounds. **Price, $9.00.**

Cabinet style (like 465) without step and shelf but only 15 inches high.

No. 353. **Three burners.** Weight, crated, 65 pounds. **Price, $9.00.**

No. 352. **Two burners.** Weight, crated, 50 pounds. **Price, $7.00.**

ORDER NOW AND GET YOUR STOVE BEFORE THE RUSH COMES.

$50.00 Sewing Machine for $19.25

Do you own one? If not, here is a bargain in sewing machines. None give more satisfaction than the "Practical Farmer."

P. F. HIGH ARM SEWING MACHINE.

High Arm, High Grade, Ball Bearing Noiseless, Self-Threading.

$19.25.

Freight prepaid east of Rocky Mountains.

Constructed of the best material in use. Every bearing being of steel or case-hardened.

No Vibration.—This machine does not vibrate. Its natural movement is nicely balanced, the motion is easy and quiet.

Lock-Stitch. — It is a lock-stitch shuttle machine.

Speedy, Light, Quiet.—It is as speedy, light and quiet running as any shuttle machine manufactured.

Double Feed.—Positive Four Motion.—The double feed possesses advantages over all others.

The Needle Bar.—A self-lubricating needle bar, which is always kept clean, well oiled and the oil cannot drop on the work and soil.

The Self-Threading Open-End Cylinder Shuttle is entirely new; is absolutely self-threading—not a hole to thread through.

The Loose Pulley for winding the bobbins without running the machine is constructed to admit of instantaneous stoppage and starting of the machine without stopping the treadle movement.

Attachments.—A complete set of latest style presser bar attachments goes with each machine.

A Written Warranty for Ten Years Goes With Each Machine.

P. F. Drop Cabinet Sewing Machine.

Each machine is guaranteed for 20 years; thoroughly inspected and sewed with before leaving the factory. Instruction book accompanying each machine explains everything.

Woodwork.—The woodwork is of the latest golden oak, highly polished. Drawers ornamented with carved woodwork.

The Arm and Bed Plate castings are of extra heavy weight, that either light or heavy fabrics may be used.

The Face Plate, hand wheel, shuttle carrier and stitch regulator are finely nickel plated and polished.

$19.50

Freight prepaid east of Rocky Mountains.

Stitch Regulator.—The stitch regulator is in front of the arm post, and automatic bobbin winder is so arranged that it can be turned down flat and even with the bed plate, allowing free access to the stitch regulator thumb screw.

Threading. — No holes for thread except the eye of the needle.

Presser Bar. — The latest style presser bar attachments, which will produce the finest of fancy sewing.

The Table.—The machine will prove a handsome ornament to any room. The table is decorated with a 20-inch tape measure in marquetry design.

THE FARMER CO., Market & 18th Streets, Philadelphia Pa.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Six miles from Blountville, the county seat of Sullivan Co. Climate mild and pleasant. Farmers have been discouraged, on account of drought that lasted two months. The rains of late have made everything look nice and green again, and the farmers now smile contentedly. Crops looking very well; corn is small, owing to drought; gardens looking better since the recent rain; wheat and oats crops good; potato crop will be light. Prices: Wheat, new, 70c.; potatoes, $1 per bu.; chickens, 12½c. per lb.; eggs, 10c. per doz. Hogs and beef cattle scarce and high; horses in good demand. Farm help scarce. Peaches a failure, but apples plentiful. The berry crop is the largest for years. Country is somewhat hilly, with plenty of cool springs and good wells. Health of country good. Farmers up-to-date. The P. F. is a welcome visitor in nearly every home. S. R. HAWK.
Indian Spring, Tenn., Aug. 1, 1903.

Located in Howard Co. We are having warm, dry weather; had a little rain but not enough to do good. Most corn is doing well, but will not be a full crop unless we have rain soon. Corn planted early is uneven, while late planted corn is very even. Had a good crop of hay, which was all put up in fine condition. The farmers are nearly through threshing. Wheat crop medium; the apple crop hurt by late frosts; will have a few peaches, but no pears. Wheat is worth 68c.; corn, 45c.; apples, 70c.; potatoes, 75c. per bu.; eggs, 13c. per doz.; butter, 14c. per lb. Telephone and free delivery lines run all through the county. We have good roads, schools and churches, and the land is productive. HUGH E. SMITH.
R 1, Kokomo, Ind., Aug. 3, 1903.

Monroe county, on the southern border of W. Va., is a grass and stock country more than a grain country. Wheat crop good; corn not looking well at all, and hay about one-half crop. Very dry in spring and early summer, but fine season now. Local prices: Wheat, $1; corn, 75 to 85c. per bu.; eggs, 15c. per doz.; butter, 15 to 20c. per lb.; potatoes, 65c. per bu.; wool, 21c.; lambs, 4½ to 5c. per lb.; cattle, $3.50 to $4.50 per cwt. Horses high. R. F. FLESHMAN.
Peterstown, W. Va., Aug. 4, 1903.

South and Southwest Texas is now undergoing another excessive "wet spell," after a month's dry, hot (108 degrees F.) weather that was of immense benefit to cotton. Watermelons which were shipped by trainloads and brought a good price at first, are now worthless and rotting in the field. Peach and pear crop good. Corn never better, and 25c. corn is freely predicted. Sweet potatoes fine. Cotton one month late; would yield a bale per acre were it not for the boll weevil. I have seen 60-acre fields, 4 to 5 feet high, that will not average one boll per stalk. Butter, eggs and poultry, which kept up fairly well, took a slump last week. We are erecting a $5,000 creamery here. Have four rural mail delivery routes and seven passenger trains daily. Prices of cattle are lower than for years. The sorghum crop (used for hay here) is being harvested and is excellent. T. J. PONTON.
Box 295, Yoakum, Tex., July 31, 1903.

Located at Belfast, on P. R. R. Canning factory located here for corn and peas. This section is adapted to dairying and selling hay. Crops looking fine; fruit and berries are plentiful; hay and wheat being harvested; oats ready to cut. Prices: Potatoes, old, 60c.; new, $1.20 per bu.; butter, 20c.; cheese, 10¾c. per lb.; eggs, 16c. per doz.; oats, 48c. per bu.; wages, $1.50 per day in haying and wheat harvest. Thanks to the P. F. for many practical hints. J. A. SMITH.
Belfast, N. Y., Aug. 3, 1903.

Elliott, Iowa, S. W. Montgomery Co. A much needed shower came July 28th. Haying and harvesting mostly done; each is a fair crop considering the chance it had. But little good corn in this neighborhood; late potatoes a poor prospect. Had cold, late spring, and so much rain in May and June everything is late. Good many chickens raised here. Eggs, 11c. per doz.; butter, 12 to 15c.; young chickens, 10c.; old hens, 8c. per lb.; good cows and horses are high. Hired help is very scarce. Success to the P. F. MRS. NELLIE REYNOLDS.
Elliott, Ia., Aug. 1, 1903.

I am located in the southern part of Kansas, 3½ miles south of Wellington, county seat of Sumner Co. It has been very wet up until harvest commenced, but now is very dry. Farmers are commencing to plow for wheat. We have R. F. D. and will soon have rural telephones, part of the lines being up now. Our wheat and oats crops this year are very light; corn is looking well but needs rain very badly. Prices: Wheat, 58c.; corn, 50c.; oats, 25c. per bu.; corn chop, $1; shipstuff, 80c. per cwt.; beef, 3½c.; pork, 5½c. per lb.; land is high; farm hands are getting from $18 to $25 per month; girls, $2 to $3 per week. I like the P. F. better than any other farm paper I ever took. A. J. ARMSTRONG.
Wellington, Kan., July 31, 1903.

Located in Northern Vermont, on C. P. and B. & M. R. Rs. Orleans the county seat. Chief agricultural pursuit is dairying. Shortage and lateness of all crops, on account of the worst drought ever known here; two months drought broken June 15th. Cows are doing fairly well. Every dairyman has a cream separator. Cream largely gathered by proprietary creameries. Rural free delivery of mail. Prices: Butter, 20 to 22c.; lambs, 4½c.; hogs, 5½c.; veal calves, 5 to 5½c. per lb., live weight; eggs, 18c. per doz.; potatoes, old, 75c.; new, $1.50 per bu.; hay, $12 to $14 per ton. Wet weather. Much hay to cut. Help scarce. W. R. CONNAL.
Newport Centre, Vt., Aug. 1, 1903.

Located in the western part of Colorado, 2 miles east of Grand Junction, Mesa Co. We have had more rain this summer than usual for this climate. Nights cool. Farmers depend on irrigation for crops. Timothy hay, alfalfa, oats, fruit and truck farming the principal occupations of farmers in this valley. Prices: Eggs, 25c. per doz.; butter, 25c. per lb.; potatoes, $1.25 per cwt.; chickens, 12c. per lb.; flour, $2.30; corn, $2 per cwt.; corn meal, $1.20 per bu.; peaches, $1; apples, $1.25 per box; blackberries and raspberries, $2.40 per crate; tomatoes, 10c. per lb. O. C. KELLER.
Grand Junction, Col., July 29, 1903.

Located 12 miles west of Asheville, the county seat of Buncombe Co. Land is naturally hilly and some rough mountains. Wheat, corn, oats, hay and potatoes are principal crops. Wheat is being threshed; corn has been damaged by dry weather in July, especially early planting; hay much better than was expected in dry month of May; potato crops look fair; fruit almost a failure. We get mail once a day. The Bell Telephone Co. has just put up a new line of telephone from Asheville to Knoxville; a great improvement to our country. T. G. HIGGINS.
Leicester, N. C., Aug. 1, 1903.

Logan Co., Ky. This has been a seasonable year for us. Crops well cultivated and had plenty of rain; corn and tobacco finest in several years; wheat only 50 per cent., and a poor quality; oats 75 per cent. of a crop; potatoes fine; hay 100 per cent. Prices: Wheat, 75 to 80c.; corn, 65c.; potatoes, 60c. per bu.; eggs, 8½c. per doz.; butter, 10 to 15c. per lb. Fruit crop is light; scarcely any peaches. Horses and mules scarce and high; good mules sell as high as $200. P. F. is taken in a good many homes; may its good work go on. JNO. W. RAGLAND.
Auburn, Ky., Aug. 3, 1903.

Located in Central Indiana, 12 miles from Kokomo; fine farming country. It has been dry, with little rain for several weeks. Wheat and oats are almost all threshed, making half a crop; wheat from 12 to 20 bu. per acre; corn crop will be very short, on account of dry weather, especially late planting. Blackberries are almost gone; crop short and inferior in quality because of dry weather. A great deal of hay put up this season. Prices: Wheat, 68c. per bu.; corn, 70c. per cwt.; wages, $1 to $1.50 per day; butter, 15c. per lb.; eggs, 12c. per doz. C. C. BEALS.
Russiaville, Ind., Aug. 3, 1903.

A large acreage of small grain; harvest was very heavy. Hands, $2 to $2.50 per day for shocking. Alfalfa crop good. Wheat, 54c.; oats, 24c.; corn, 38c.; potatoes, 75c. per bu.; cabbage, 4c.; butter, 12½c. per lb.; eggs, 10c. per doz.; fat hogs, $4.60 per cwt.; beef, 7 to 12½c. per lb.; cows, from $15 to $40 each. Corn is late, on account of the vast amount of rain in the spring. Fruit nearly all killed by the hard freeze the last of April and first of May. Heavy rains now. MRS. J. H. ADAMSON.
Nora, Neb., July 31, 1903.

Located in Southern California, near the coast, among a progressive people. Electric roads run in every direction. Many R. F. D. routes. Fine climate; never hot or cold. Magnificent fruit country, and the best of markets. Little stock raised, and the supply brought from New Mexico and Arizona. We have many good creameries, and prices of milk and cream run about the same the year around; milk, 8c.; cream, 40c. per qt., retail. Vegetables and fruit are cheap; living very reasonable. Land prices, $150 to $1,000 per acre, with artesian wells in many localities. WILLIAM C. AIKEN.
Los Angeles, Cal., July 29, 1903.

Located in Southwestern Nebraska, near Republican River. Crops excellent. Wheat, 20 to 30; oats, 40 to 60 bu.; alfalfa, 3 to 4 tons per acre, with good prospect for two more cuttings. Pasture fine; cattle in good condition; not many hogs raised this year. Plenty of rain. Fruit scarce; some strawberries and peaches. Hired men, $20 to $25 per month, and very scarce. St. Joe and Kansas City markets rule. Many farm papers taken. J. M. LANCASTER.
Riverton, Neb., Aug. 1, 1903.

Located in central part of Polk Co., on K. C. P. & G. R. R. Altitude 1,300 feet. Very healthful climate. Fine fruit country, though a failure this year; no peaches, plums nor pears; few apples. Crop prospects are very discouraging; been very dry; cannot be more than one-fifth of a cotton crop; early upland corn may make one-half crop; low bottom and late corn will be much better if we get a good season; canteloupes and watermelons a failure; gardens burnt up. Prices: Corn, 75c. per bu.; meat, 10 to 12½c.; butter, 25c. per lb.; eggs, 12½c. per doz.; mules, $125 to $150; horses, from $75 to $150; cows, $20 to $35; chickens, friers, 12½ to 15c.; hens, 25c. each. ASA GATLIN.
Mena, Ark., Aug. 1, 1903.

Located in Sussex Co., 3 miles east of Milford, Del. Hardly any peaches; tomatoes are beginning to blight; late white potatoes looking well; sweet potatoes will only make one-half crop; corn late; wheat only two-thirds of a crop. Threshing all done. Canteloupes just beginning to get ripe. Strawberries very weedy, on account of wet weather. Help scarce; $10 to $15 per month. Fine schools. Prices: Wheat, 75c.; corn, 50c.; potatoes, 50c. per bu.; butter, 20c.; chickens, 14c. per lb.; eggs, 16c. per doz.; horses, from $50 to $150; cows, from $20 to $45 each; land, from $20 to $60 per acre. Success to the P. F. and readers. CLARENCE T. WATSON.
Milford, Del., Aug. 5, 1903.

◆

The Red Book.—The John M. Cannon Land Agency, Cresco, Iowa, have just published the "Red Book," a very neat catalogue describing in detail some of their offerings in real estate. The book is handsomely illustrated, and contains information of value to those seeking a new home, or opportunities for safe investment. When writing for it, be sure to mention the P. F.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Position Wanted. By industrious young man, with no bad habits, to work on farm, with chance to work into manager. BENJ. L. PHILLIPS, R 1, Lancaster, Ohio.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Agricultural Books Wanted. (P. F. books preferred.) Second hand, but in good condition. Write what you have and price by mail. WM. E. PARK, care Lovejoy's Market, Moline, Ill.

James River Farm For Sale. 315 acres; beautiful location, healthy; fine orchard, 6 acres; 18 miles from Richmond City; bargain, price $4000 cash. I. S. WINFREE, Subletts P. O., Powhatan Co., Virginia.

For Sale. Well improved farm, 60 acres, high state cultivation; good young orchard bearing; on Rural Route also phone, living water. $2100 if taken by Sept. 1st. J. M. LAWRENCE, Huntsville, Mo.

Wanted. Young man and wife. Experienced on broiler plant; as assistant on modern poultry plant, and splendid opportunity for competent people not afraid of hard work. Address, with references, C. L. ROBERTS, Bayview, Galveston County, Texas.

263 acre stock and tobacco farm in Clement Co., Ohio. On the east fork of the little Miami River; 25 miles from Cincinnati, near 2 traction lines; 1 brick house, 19 rooms; 3 tenant houses, 2 tobacco and 1 grain barns; 75 acres timber, plenty water. Price, $50 per acre. GEORGE R. MARTIN, Woodlawn, Ohio.

For Sale. In Hanover Co., Va., on Hanover Road, 2½ miles from Ashland. Convenient to churches, school and Randolph Macon College. 2½ miles from R. R.; excellent market; Star Route mail delivery daily. 185¾ acres of land, ½ cleared, ½ in pine and oak timber. Apple, peach and pear trees. Crops included in sale. Good 7 room house, halls, pantry and porches. New chicken house, wagon shed, corn crib, fertilizer and tool house being built. At $2500, a bargain. D. F. SHIPLEY, Ashland, Va.

Alfalfa Farm for Sale. 160 acres; one-half broken, balance pasture, 5 varieties grass. 100 acres will grow alfalfa. 20 acres in alfalfa; two cuts already made 3 to 4 ton per acre and can cut twice more. 4 miles to 2 P. O. and co-operative creamery that pays 2 cents pound more for fat than the world's largest creamery. Excellent spring and well water tanks, windmill, small fruit, 400 peach trees, etc. School and S. S. 1 mile. Fair buildings. Price $26 per acre. J. M. LANCASTER, Riverton, Franklin Co., Neb.

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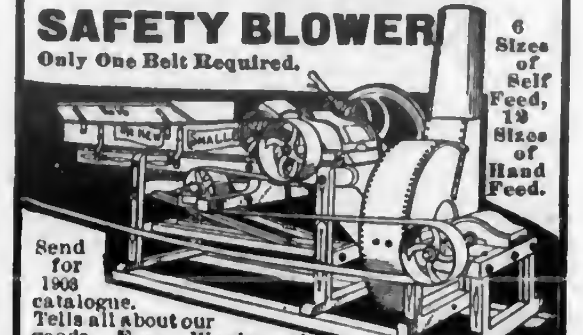
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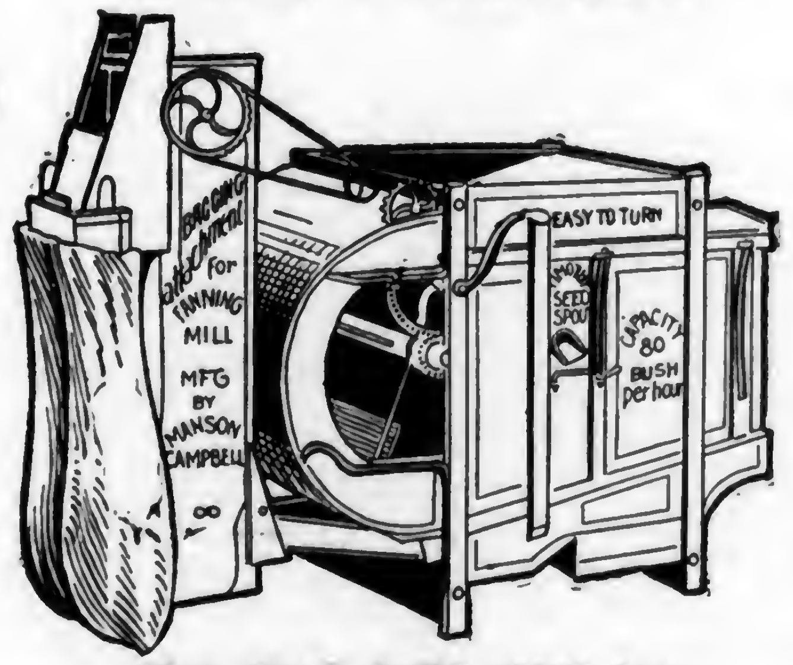
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THE KEYSTONE OF SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

New Shingles Over Old Ones.—Making Upstairs Rooms Cooler.

Mrs. Sarah A. P[illegible], Ind., asks if it is ever advisable to re-shingle a house without removing the old shingles; and if the house could be made any cooler by so doing. I would not advise doing this way, although it can be done successfully sometimes. Some 33 years ago I helped re-shingle a church without taking off the shingles then on the roof. The church had not been built long, but the shingles were of poor quality and had split up so badly that the roof leaked a little in many places. It was considered too great a risk to tear off the old shingles as the weather was, and so we laid new ones right over the old shingles, using 6-penny nails. The old shingles were sound, you understand, and would hold a nail pretty well. This worked all right, although when the roof began to leak from old age there was serious danger of rotting out the roof boards quickly, as there was so much roof there to hold water and be slow drying out. Perhaps a double layer of shingles might prevent the heat of the sun from going through the roof quite as badly, but one can get far better returns from putting windows in near the top in the gables of the garret, so air can circulate through. If the garret is floored over, and a trap door opening is made to allow air from house to pass up to take the place of the heated air that goes out the garret windows, it will be found to be a great help. This plan has made our upstairs rooms very much cooler when the sun shines, and particularly during hot nights following. We never spent a few dollars that added so much to our comfort, I think. We know nothing about being troubled by hot nights any more. By bedtime every room is practically as cool as down stairs, or out on a porch; and our house has a slate roof, too. Now it is true that our garret is 9 feet high, as the roof is steep, one-half pitch, but good results will come from flooring over the lowest garret and putting in windows as described above, and making a large opening in the floor to let the air from below rise up. For 19 years we suffered during hot nights, for lack of just a little thought and labor, but we shall not any more. Take my advice, dear friends, and make your homes comfortable in this respect.

Asphalt and Cement Floors, Concrete Walls, etc.—Phineas Reed, Sykesville, Pa., writes that he wishes to put asphalt floors in his horse and cow stables and wants full directions for doing the work in the best manner. Probably he will have to send to some city for materials and men who know how to do the work properly. If I were determined to have such floors I should do this way. It is not usually best to take any chances on such a job. But I earnestly advise him to put in cement floors instead of asphalt. They are all right, when properly constructed, and practically everlasting and cheap. They are warm enough and soft enough, when bedding is used freely on them. All animals should be bedded, anyway. It pays to make them comfortable, as well as being the right thing to do. The floors are not at all slippery when part of the material out of which they are made is fine gravel and the surface is finished off slightly rough, not troweled down smooth. No doubt an asphalt floor can be made that would be just as good, but would it not cost more? I have given no attention to asphalt floors because cement floors are good enough. Then they are so easily built and so cheap. We have just been putting in a cement floor in the furnace room in our cellar. We had only to mix up the dry cement and sand and gravel, using one-quarter cement, then wet it and spread it down two or three inches thick. In two days we had a floor that is just one solid rock all over. When it gets perfectly hard it will hold a team. Akron cement was used, costing $1 a barrel at retail. Full directions for laying this floor in stables were given in Aug. 1st issue.

Another reader asks how cement, or concrete, would do for a cellar wall, also for foundation blocks and well curbing. "Could it be moulded in blocks, or segments, and laid up like bricks? Please tell how it is made and if ordinary field stones could be used as a filler." Concrete can be used for a cellar wall, but where frost would reach it Portland cement should be used. This would make it rather expensive. However, there are localities where it is used considerably. It is a good deal of bother to make such a wall, and do a good job. The concrete must be confined, or held in place, by planks until it sets; then the planks can be raised and more material added. I should use one part of Portland cement and three parts, by measure, of clean, sharp sand. This must be mixed thoroughly, dry, and then wet up and mixed more. A reasonable quantity of small stones, or broken stone, or coarse gravel, may be mixed in before putting the concrete in the form. One must not use any more stones than the mortar will well surround and hold together. Below frost I would use one part of common cement, such as the Akron, to two of sand, and add stone as described above. Be sure the cement is fresh and good. When you open a sack it should break up mellow like flour. If it is hard and lumpy it has been kept too long, or in a damp place, and it is not as good. It has partially set and will never make as strong mortar again. It may seem hard, however, before you open the sack, and still be mellow and fresh. Now I am aware that some make cement walls, using a smaller proportion of cement, but the writer always prefers to do a thing a little too well, rather than ever have it to give out. Bricks, or blocks, can be made of cement and sand, and good ones, too. I have seen some. But they will usually cost more than those made of clay. Hollow bricks, made of clay and glazed in burning so they will not absorb water, are much used in many localities now. Our barn and house cellars are made of them. They are about 8x8x16 inches and cost about ten cents each at retail. Ours cost 13 cents each laid in the wall and all mortar and hauling paid for. This beats stone, common bricks and concrete. Where the wall is properly laid it is all right after the weight of the building is on it. One must not fill in behind it until then. We have used our cellar 20 years and it is as good as ever. You can make well curbing of cement and sand, and also water tanks. But I prefer, and have used in our wells, 2-foot sewer pipe. One can usually get second quality pipes, that were slightly injured in the making, or burning, for a moderate price, and they are just as good, usually. These same pipes are the best thing out for the top of a round cistern above the arch. Frost will not touch them. Set one right on the arch and cement around it; then make a wooden cover to fit on top. This top can be made of cement [illegible] sand, but one of these pipes [illegible], is the thing. Portland [illegible] be used for tanks, and for cistern tops and for wells wherever frost will reach. And then one must not let water freeze in the tank so as to burst it, of course. Otherwise a cement and sand tank, properly made, will last as long as any other stone.

Edwin Hunt, McBrides, Mich., has bought a farm and must use an old barn for some years before he will be able to put up a new one. The question asked is, shall he put in plank or cement floors in these temporary stables. The cost, he says, will be about the same. Lay cement floors by all means. They will save all manure. When you want to tear them up use a heavy iron maul and you can easily break the floor up into pieces that a man can handle, after you once get a hole started. I was but a few minutes cracking up two loads.

Health Hints.—Power of the Mind Over the Body.—One of my good friends wrote lately: "I have read your 'Health Hints' with some interest, but I think with more amusement. But, of course, a man can't preach 52 sermons a year and strike 12 every time." That is right; the small hours must go along with the big ones, and are just as important to make the full day. But, seriously, my dear friends, the matters that we think are of the least importance are perhaps the very ones we most need to listen to. It is human nature to like to read something that just agrees with our beliefs and practices. We think a man who writes something of that kind has "struck 12." When he tells the truth about something we ought to know, or do, and do not, we are naturally "more amused" than interested. Of all the articles I ever wrote probably the one in the Feb. 7th issue, on the power of the mind over the body, was sent out with the most hesitancy. It was held a long time after it was ready. I feared people would be "more amused" than profited, although I believed it to be absolutely true, and of all the greater value because it brought up a matter almost new to people generally. Soon after it was published words of approval began to come in. The following is a fair specimen, from my friend, C. B. Stone, Minturn, Col.: "In the 'Health Hints' in the Feb. 7th issue of the P. F., I think you gave some of the best advice that I have found in the paper during the seven years that I have read it." Mr. S. is evidently a student along this line and so naturally thought I "struck 12." Again, my long-time friend, A. I. Root, did me the unusual compliment of re-publishing the entire article in Gleanings in Bee Culture, with many exceedingly favorable comments. And do you know that I feared greatly that the ground I took would be attacked by Mr. Root, but decided that it was my duty to send the article forth anyway. I tried hard to put the truth in a light that would at least interest, if not convert, and that would not antagonize. The result was really a surprise.

Now, friends, read with care the following sentences, taken from Mr. Root's comments on the article mentioned: "I am going to quote again at length from my good friend, T. B. Terry. Perhaps some of you think that we are giving a good deal of space to this matter of health, and to the food we eat. I admit it, and sometimes I am tempted to think that our discussions do not amount to much after all; but I think daylight is coming, and friend Terry gives us a most vivid glimpse of the direction from which daylight is to come. The doctor told Terry that a particular food was hurting him. He proved it by chemical demonstration. An excess of acid and fruit would have to be stopped. Why, no wonder our poor friend said 'it was as plain as daylight.' He stopped eating fruit, fully expecting that distress would cease, and it did. Why, I have gone without fruit, lemonade, and things of that sort, a great part of my life, just as friend Terry did, and have told friends where I was visiting, right and left, that I could not eat such and such things without getting into trouble. Once in a while I would break over, as friend Terry says he did, and then I would watch for the unpleasant symptoms. Yes, dear friends, I do believe that we are all full of notions. With some like myself you might call it 'hobbies.' We carry these notions and hobbies to an extreme. But does it not seem almost incredible that we should carry them to such an extent that fruit or lemonade would cause us distress, just because we got a notion that it would? [Rather more than a notion, I think; absolute faith, perfect certainty in one's own mind.—TERRY.] Is there a possibility that fermentation can get agoing, and rouse us up at night during a sound sleep, just because we have got a notion in our heads that it would? Why, I am ashamed to admit it, but I am afraid it is true. Do you remember the druggist's clerk who told us that he noticed people always got better, no matter what medicine they bought? Terry's story would indicate that the patient's faith in what was printed on the wrapper performed the cures, rather than what was in the bottles. If he gets it into his head that the medicine is the thing he needs, it proves to be so. When I read friend Terry's story I had been craving fruit, but did not dare eat it. Even strawberries, when they first began to ripen, seemed to distress me, and I was wondering how it happened. Well, after reading Terry's story I went and made a good bowlful of hot lemonade and drank it just before going to bed. I slept remarkably well until daylight. In fact, I had made up my mind that would be the case after reading what Terry said. It gave me faith. The next morning I ate a dishful of strawberries, and the same for dinner and supper. That was a week ago. I have been using them freely every day since, and I told Mrs. Root this morning that I had as much vim and vigor and energy as I ever had before in my life."

Friend Root did not read the article, you see, until strawberry time. Just a few words more. I told you how the New York doctor said I must never eat anything sour anymore. Then when our old family doctor, later, after long study of my case, told me he did not know, but he believed that I owed my condition, which was serious indeed, to eating too much fruit, it fairly staggered me. Here I had been advising and urging the free use of fruit daily. Had I been wrong? How many friends had I been the means of leading to the grave, or near it? These thoughts were enough to make any man sick. So it was a relief indeed to show you in that article that I had not been wrong. This season, beginning with Southern grown strawberries weeks before we had them ripe here, I ate practically at every meal my large oat meal dishful, as of old. When a meal was missed it was only because we could not get any. The result was real pleasure while eating the delicious fruit, excellent health, no trouble whatever.

T. B. Terry.

Sowing Wheat on Corn Ground.

J. W. INGHAM.

There is an old saying with us that a field which has raised a good crop of corn, will bring a good crop of wheat. This accords with my experience, and barring accidents of winter-killing, Hessian fly, midge, rust and smut, which are incident to all wheat fields, the saying may be considered an established fact. There is no doubt that when the corn is removed the land is in excellent condition for wheat, provided the corn was properly tilled, so that no weeds or grass could be grown, and is better than an oat or barley stubble, and nearly equal to a summer fallow.

Corn ground will produce nearly as much wheat as a summer fallow with much less labor of preparation—and here is one of the anomolies of farming—the fallow after having been plowed and harrowed as many as three times during the summer, and exposed to the sun and wind without any covering or manuring, is quite sure to fetch a good crop of wheat; the corn ground, on the contrary, has been shaded all summer, and during the latter two months of its growth the shade has been very dense. The soil has provided sustenance for a heavy growth of stalks and grain, and yet will give nearly as much wheat per acre as the fallow. If exposure to the sun and wind is a good preparation of land for wheat, we would naturally suppose that shading the ground would be a bad preparation; but such is not the case. There is no question about the suitableness of good corn ground to produce good wheat, the difficulty is to get it sown in the proper season.

In the West they tell about sowing wheat among the standing corn before the last cultivation. Either the last cultivation must be very late, when the corn is higher than a horse's back, or the wheat be sown earlier than can be done with safety in the East. In Northern Pennsylvania it will not answer to sow earlier than the first of September (lest it get too large a growth before winter), or much before the first of October to be safe against the ravages of the Hessian fly. My father, who sometimes sowed his corn ground, practiced cutting the corn as soon as it was glazed, drawing it off on a sled, and standing it up in a nearby field. This was a great deal of work, and required painstaking to set the shocks up so they would not fall down; but left the ground entirely clear for plowing and sowing. When the corn is drawn off and put into a silo it leaves the land clear for sowing wheat and furnishes another argument in favor of the silo, as the corn ground can be sown without difficulty and sown at the proper season. Some of our neighbors cut up narrow strips through the field, lay the stalks at one side, then plow and sow the strips, then cut up the remainder and stand it on these strips together with what they had first cut. In this way the whole field is sown, but the wheat will be killed on the spots where the shocks stand. I think about the best way, the one usually practiced here, and the one I have followed, is to cut up the corn so that the spaces between the rows of shocks will be about 56 feet wide. This does not require much more time than to cut in the ordinary way, if rightly managed, and is more convenient by concentrating the work of husking, and drawing the stalks and corn. These spaces between the rows of shocks are then back furrowed and sown. The narrow strips where the shocks stood are left until the next spring, then plowed and sown with oats. Sometimes these strips are plowed and sown with wheat in the fall, but being sown later, does not ripen so soon as the first sowing, and is not apt to be as good. Sowing corn ground is mussy farming, but if all the work is done well and the wheat sown at the proper season, a good crop is reasonably sure. My first farming on my own account was sowing ten acres of corn ground to wheat. The work was commenced about the first of October. The corn had been planted on sod turned over in the spring which by fall had become well rotted. The previous tenant had cut up his corn in the usual manner, taking about seven rows to make a row of shocks, or "stouts," as they were generally called. With the tenant's permission I carried a row of shocks and placed it in the line of the next row, and then another row of shocks from the opposite direction and placed it in the same row, and by standing them up securely, obtained a clear strip between the rows of 49 feet, and over 42 feet of it could be plowed without the whiffletrees tearing down any of the corn. The next thing done was to clear off the pumpkin vines, which were dragged by a spike-tooth harrow to the ends of the rows on the two sides of the field, and piled up where they were out of the way.

Cleared of the pumpkin vines the land presented a very fine appearance. Having been densely shaded, it was moist and mellow, and when plowed not a lump was to be seen anywhere. The spaces between the rows of shocks were plowed by beginning in the centre and back-furrowing until the strip was finished, leaving an open furrow on each side of the shocks. This method was preferable to plowing around the land in the usual way, which would leave a dead furrow in the middle where it was not wanted. It was harrowed once, but I don't think it was needed, as the furrows lay down smooth and the soil was in fine tilth—not a lump discernible. Before leaving the field at night I sowed the strips which had been plowed during the day and harrowed them over twice, but I believe that once would have done just as well, for there was nothing to pulverize, and the second harrowing uncovered as many kernels of wheat as it covered. The strips made two 7-pace lands, and were sown broadcast by hand, as there were no drills at that time in the country. It was past the middle of October when the last strip was sown, and the first sowings were up. The crop when harvested yielded an average of 25 bushels per acre. All the different sowings were good, but I thought the first sowings were rather the best. I have sown corn ground several times since then and never failed of obtaining good crops if it could be got in by the middle of October. All wheat needs is to get top enough to cover the ground and protect the roots, and this it will do on good land if sown by the middle of October. Of course some falls are more favorable for growing crops than others.

Bedford Co., Pa.

Winter Oats Instead of Wheat.

J. D. ROBISON.

Farmers in this section, like many other sections of the country, run a three year rotation of corn, wheat and clover. But since wheat got below a dollar per bushel there are more of us who don't pay expenses on wheat than do. By experimenting with winter oats we find they will take the place of wheat with less expense and better profit in several ways. We can raise them with half the amount of fertilizer. [They will pay for liberal fertilization.—Ed.] The straw makes much better feed than wheat straw, and it seems that clover sets better than it does in wheat. I have a good set of clover in my oats stubble and a poor one where my wheat was, all sowed the same day. Last year our wheat made from 10 to 20 bushels per acre, while oats made from 25 to 50 bushels per acre. Wheat sold, at threshing time, for 65 cents. Dealers bought all our oats and had demand for more at 40 and 45 cents. This year, while threshing has just begun, wheat is making from 2 to 10 bushels per acre, and a very poor quality. Oats are making four times as much as wheat and a good quality. I don't know what our wheat will bring on the market, but not very much. Our dealers are running all over the country engaging oats at 40 cents and it looks as though it would go to 50 cents before they fill their contracts, if they are as large as they say they are. And another thing in favor of the winter oats they weigh 38 to 40 pounds per bushel, struck measure, from the machine. I hear men say they are not going to sow any wheat this fall, but will sow all they can in oats. The oat meal factories like the winter oats on account of the plump, heavy grains. Anyone that never saw these oats grow might think they are all dead in the spring, but don't get discouraged and plow them up. Give them a chance, they will come out all right.

Clark Co., Ind.

[We are glad to know that winter oats are succeeding in Clark Co., Ind. If they do well there there is no reason why they should not do finely in all that part of the State further south, and in Southern Illinois. Growing during the cooler weather and ripening in the early summer before the heat is excessive, the winter oats are always heavier than the spring sown ones, and can be depended upon in the South to keep up their weight, while the spring oats there are comparatively worthless. If sown early, either in August or early September, they are far more certain to winter safely. With a proper rotation of crops and good farming it ought to be easy for you to grow 50 bushels and over per acre.—Ed.]

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Red Clay Soil of the South. — J. O. Green, Peoria, Ill.—"Referring to what you say about the Davis farm near Huntsville, Ala., do you consider the red clay soil of the Davis farm and vicinity identical with the red clay lands of the Piedmont country of Virginia and North Carolina? Is it 'Cecil clay,' and can I expect to restore the fertility of it by the same means that you have so long advised in the P. F.? Can one expect to again grow red clover in that locality if the soil is improved and humus accumulated in it, with deep plowing and good cultivation?" The red clay soils of the valleys of North Alabama and East Tennessee, while in appearance similar to the red clay soils east of the Blue Ridge in Virginia and North Carolina, are of very different origin. The Piedmont red clay has resulted from the decomposition of the granitic rocks, while the red clay soils of East Tennessee and North Alabama are sedimentary soils on limestone. The Tennessee soils are on the old dolomite limestone and those of Alabama seem, from a hasty examination, to be of more recent geological formation and are probably Eocene. The main difference, we assume, between them is that the Piedmont red soils abound with potash in the form of an insoluble silicate of potash, while the red soils of the limestone sections are deficient in potash, as compared with the Piedmont country. These limestone valley lands in Alabama are far more easy to improve than the Piedmont soils, since they are more generally level in Alabama and naturally deeper and more lasting. In regard to the Davis farm and its improvement we will simply take the liberty to say that Mr. Davis, when in Knoxville, asked us to visit his farm, as he said that he wanted us to see a farm that has been brought up entirely according to our directions in the P. F. There are hundreds of farmers in the Piedmont section who will give the same testimony, and in general the same treatment will apply to both, except that potash will not be such an important thing in Piedmont as westward, though even there the potash becomes so slowly available that the problem arises whether to make it available through the use of lime and plaster or to apply potash in a soluble form. This must be decided by individual experiment. We found in Piedmont Virginia that we could get the use of the potash in the soil more cheaply by the use of lime on clover than by buying potash salts. There is not the slightest doubt that with proper farming the limestone lands of North Alabama and East Tennessee can be made to grow the finest of clover, and here and there are farmers who are growing it. On the Piedmont red clay of Virginia there is little difficulty in getting good stands of clover. We never failed to get it in Albemarle Co., wherever the land, through the growing of peas and the use of lime had been brought into a condition to grow clover. All the elevated red clay soils of the South will produce as fine clover as any soils, while in the sandy and warmer cotton sections the cow pea is far ahead of clover as a soil improver. What the Soil Survey of the Dep't. of Agriculture denominates "Cecil Clay" differs widely in its composition in many sections from Cecil Co., Maryland to Georgia, and

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It may then produce irregularity of the stomach and bowels, dyspepsia, catarrh, and marked tendency to consumption before manifesting itself in much cutaneous eruption or glandular swelling.

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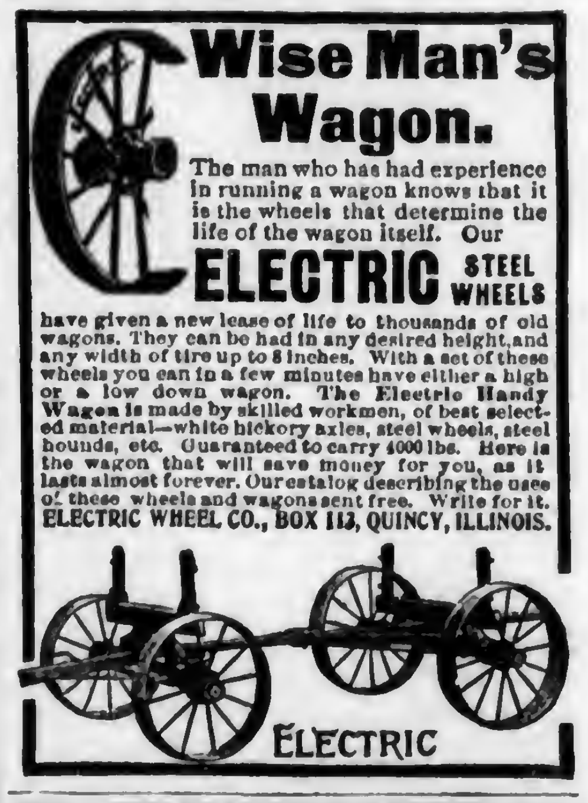

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Long, white root, quick to mature. It is now sown mixed with Dwarf Essex Rape and the crop turned under for soiling, giving excellent results. Packet, 5 cts.; ounce, 10 cts.; ¼ pound, 15 cts.; pound, 50 cts., postpaid. By express, pound, 40 cents; 10 pounds, $3.50.

WM. HENRY MAULE,
1711 Filbert St., Philadelphia.

we do not think that even these "surveyors" would call the red lands west of the mountains "Cecil clay."

Subsoiling. — E. B. Tillman, Greenfield, Tenn.—"In subsoiling, would it be a success to run one subsoiling plow after two turning plows? What kind of subsoiler is best?" It will depend somewhat, we suppose, on the depth of the natural soil. It might not be well to turn up at once too much of the crude subsoil. On the red hills of the South this would not matter much, but on most soils the turning up of a large portion of the clay would be a disadvantage, and on any land it would be so temporarily. Better run the subsoiler after one plow and gradually deepen the soil. There is very little difference in the various makes of subsoil plows. Any of the firms advertising agricultural implements in the P. F. can supply you with a good subsoiler.

Farming in Central East Pa.—L. R. Sight, Jonestown, Pa.—"If I put manure on my land for oats, top dressing the land after oats are sown, would that manure be of any help to the wheat sown in the fall? Is lime as beneficial on hills as on bottom land, or is it also good on sandy and clay soils? Do you actually think that 20 bushels of lime per acre is sufficient? Our farmers use as much as 75 to 100 bushels. What kind of phosphate is the best for hills and what for low lands? Is the red headed clover you mention so much in the P. F. our old standard clover, or is it a new kind? To what proportion can you feed a sheep to a cow, and are sheep harder on grazing land than cows? What is the reason that along an incline of a hill the grain is always so poor, and what would you advise to change this condition. Success to the P. F." A top dressing of manure on the oats will certainly have some effect on the wheat following the oats. Then if you plow the land well after the oats are harvested and sow cow peas broadcast, you will have something that will help the wheat more. Whether lime is of benefit will depend on the character of the soil. Lime is not a manure, but a re-agent to bring matters already in the soil into an available shape, and to alter the mechanical condition of the soil. If the hills abound in humus the lime will be as useful there as on the bottoms, but it generally has a more marked effect on the bottoms because they have more humus than the uplands, and the nature of the soil has less to do with it than the conditions as regard vegetable decay in them or humus. A light application of lime repeated in four or five years, is far better than too heavy an application at one time. Applying 75 to 100 bushels of lime per acre is a waste of material and labor. Sheep graze closer than cattle, but distribute their droppings so evenly that they will help the sod more than cattle if not grazed too hard. There is but one kind of "phosphate" used as a fertilizer, the phosphate of lime. Farmers in many sections have gotten into the habit of calling all kinds of commercial fertilizers "phosphate." The only phosphate generally used in making a fertilizer is the dissolved phosphatic rock making a superphosphate commonly called acid phosphate. When this is used alone it may properly be termed a phosphate. But when potash and other materials are mixed with it the article is no longer simply a phosphate, but a mixed fertilizer. Now what kind of fertilizer should be used on hills and what on low lands we are entirely unable to say, for there are sand hills, clay hills, granite-soil hills and limestone hills, and there are low lands of all sorts of soils. The fertilizer that will be good for one kind of soil will not be equally good for another. The thing which every farmer needs to study is his soil, for no one else but the man who cultivates it can find out what it needs and what he does not need to buy. In our book on "Crop Growing and Crop Feeding" we have tried to show just how a farmer can find out what his soil needs. No chemist can tell him, and the only way he can learn is by experimenting with the soil itself with various forms of plant food. In speaking of red clover we always mean the red clover that has so long been common in Pennsylvania. In speaking of crimson clover we refer to the annual clover, sometimes called scarlet clover and German clover. This is a newer thing than the old perennial red clover and is often useful as a catch crop. The exact proportion between the food ration of a sheep and a cow will depend on the sheep and the cow. Some breeds of sheep need heavier feeding than others and some cows eat a great deal more than others. A big Holstein cow needs a great deal more food than a little Jersey. Write to the Secretary of Agriculture, Washington, D. C., and ask for a copy of Farmers' Bulletin No. 22 on "Feeding Farm Animals," and you will have the best advice in this regard. A hill slope is thinner because the fertility of the soil has been allowed to wash down the hill. Good plowing and the use of legumes in summer and winter will remedy it. Keeping green growth on the land in winter is of great importance in the restoration of the productivity of any land.

Rye, Crimson Clover and Grass in W. Va.—"Farmer," W. Va.—"I want to sow rye on corn land after cutting corn, and to pasture lightly with sheep and turn under for corn again next spring. Can I sow crimson clover on the land with the rye and help the crop? I have some meadow land which has never been plowed and I do not want to plow it, and the grass is running out. Can I harrow it with a spike-tooth harrow, sow seed, re-harrow and get a stand? When shall I do this? What kind and how much seed and what fertilizer shall I use and how much per acre?" It will be of great advantage to the land to sow with the rye 12 to 15 pounds per acre of crimson clover seed. Take the sheep off early and let the clover get a good growth to turn under for the corn. It is possible that in the way you name that you may revive the old meadow But it would be far better to break it this summer and prepare the land well and seed again in September. If it is low ground we would use a mixture of timothy and red top grasses, and about 18 pounds per acre of the two mixed equally. If on high land we would use a mixture of orchard grass, meadow fescue and tall meadow oat grass, mixing 20 to 25 pounds per acre with 8 pounds of red clover sown after the grass and lightly harrowed in. We would use any good brand of a complete fertilizer; that is, one containing a fair percentage of nitrogen or ammonia, phosphoric acid and potash, and would apply it at rate of 300 to 400 pounds per acre. Use the same seed and the same fertilizer even if you treat the land as you propose, but you will get far better grass by replowing and putting the seed in right.

Clover and Crimson Clover in Pa.—J. F. Denlinger, Lancaster Co., Pa.—"In my rye stubble is a fine stand of clover. Stubble was cut high. Being wet and soft I cannot pasture it off. Clover is growing strong and some heading. Should it be clipped with the mower to make a better hay crop next spring? Sowed crimson clover in corn to plow for tobacco next spring. Is the clover good for cows in case I want to pasture it a while in the spring before plowing? Will the crimson clover enrich the soil? Have a good, rich chocolate soil, but has been run down to some extent, and I want to improve it as fast as possible. Last year sowed rye in the corn and plowed it down this spring for tobacco and potatoes. These look well, but I thought that crimson clover will furnish more plant food. Used manure in plowing the rye down and applied fertilizer to the tobacco and potatoes at rate of 250 pounds per acre in the rows. I shall manure likewise next spring and follow the tobacco with rye and seed to grass and to clover in the following spring. How much timothy seed is best per acre. I am apt to get too much timothy seed and it hurts the clover. I have a small farm of 12 acres and want to make the most out of it. Planted tobacco between the rows of my early potatoes, and am now taking the potatoes out, and the tobacco looks fine. I put 400 pounds per acre of fertilizer on the potatoes in the row, and used the same on tobacco after plowing under the rye and manure. I notice that some of your readers are opposed to tobacco, but here it brings more money than any other crop. I have been taking the P. F. since spring and am more than pleased with it. Have had many good hints from it and read it more than my county paper. I planted Maule's Mammoth sweet corn between my sweet potatoes, four feet apart. Will it be best to keep the vines from between the corn?" Your inquiry in regard to a heifer has been referred to Prof. Soule, who will answer in Live Stock Department. Mow the rye stubble off at once, and if too heavy to leave on the land rake it off and remove it. Crimson clover is as good for cows as any clover, in fact, better. It will also benefit the soil by getting nitrogen from the air and leaving it in the clover for the following crop. It will make a far better crop to plow under for the tobacco than rye, which only returns organic matter, while the clover gets nitrogen in addition. I would sow, on your land, about 6 pounds of timothy seed and 10 pounds of red clover seed per acre. The tobacco will probably benefit some from the fertilizer left in the land by the potatoes. In North Carolina some of the best growers plant cotton between their early potatoes after putting 1,000 pounds of fertilizer per acre on the potatoes and shipping the potatoes North in early June, then work the cotton and get over a bale per acre. One grower we know of gets from $9,000 to $10,000 annually on a 56-acre farm. Let the sweet potato vines ramble where they please. Plant the crop that brings you most money, even if there are some people who are opposed to a particular crop. Tobacco is an important crop in many sections, and where it is profitable it should be grown, of course. We are glad that the P. F. is helping you, and you can help your neighbors by inducing more of them to join our family. But in writing to the paper please do not write on both sides of your paper. Then, too, we notice that you speak of fertilizers as "phosphate." Read what we have said to another correspondent on this subject. A mixed fertilizer has some phosphate in it, but is not properly called a phosphate, but a commercial fertilizer. The simple dissolved rock is the only real phosphate, and this is used in compounding with other mixtures.

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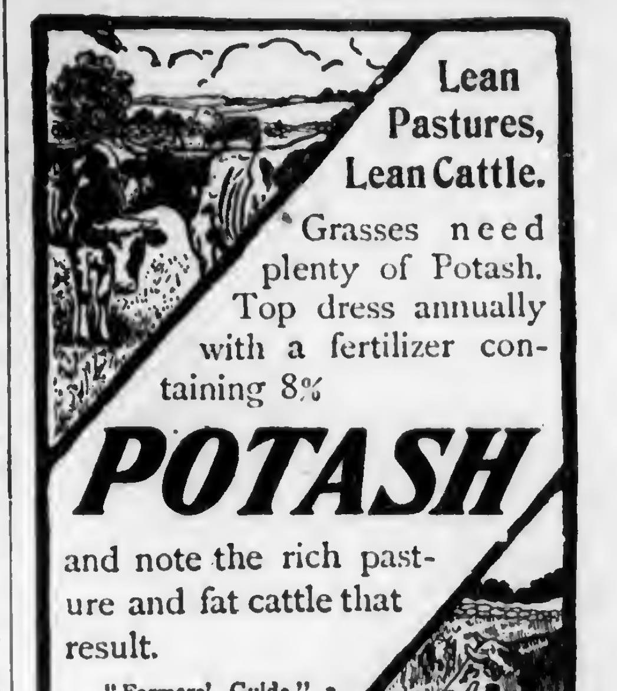
The "Thinginess" of Things.—Before one can accomplish much in any field of endeavor, he must understand his particular line of business "from the ground up"—he must be able to go to the core of his work and get at the "thinginess" of things, as it were. Precision in statement, for example, is a very essential accomplishment, and yet how few ever attain it. Were you requested to define the simple word "thing," would you not be embarrassed? Webster defines "thing" thus: "Whatever exists or is conceived to exist, as a separate being, whether animate or inanimate." Simple enough, isn't it—and yet not one person in a thousand could clearly define the word. When it comes to harvesting machines, however, accurate information seems to have been more generally disseminated. The majority of agriculturists have a favorite binder to harvest their crops, and they can explain why they prefer that particular machine. Among the many exclusive features on the McCormick binder, there are two things that especially appeal to every practical farmer—the improved needle and the simple knotter; and these two features materially assist in making the McCormick the favorite machine of the farmer.



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This penetrating, stimulating, soothing, absorbing, antiseptic, healing ointment heals from beneath the surface by disinfecting the parts, subduing inflammation and stimulating healthy granulations, not by drying and scabbing, and stimulates growth of hair, natural color.

Makes quick, clean and healthy cure; heals stinging, burning, chronic saddle and collar gall, hopple chafes, abscesses, inflammatory sores and all skin disease. It penetrates, stimulates, soothes and heals while the horse works. Money refunded if it fails.

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Harvesting and Preserving Silage.

PROF. A. M. SOULE.

Many persons can grow silage crops successfully who find it difficult to preserve the same. Assuming that an airtight and well constructed silo is available in which to store the food, there should not be any serious difficulty in preserving it, provided it is good at the time of filling and properly handled thereafter. The implement *par excellence* for cutting and handling corn intended for the silo is the corn harvester. It is a wonderful invention and a great labor saving machine. While the first cost may seem large to the farmer, if the harvester is properly handled it will last for a number of years and the saving in labor and time effected through its use will more than account for the interest on the investment. Whenever possible the farmer should have a corn harvester, or if he cannot purchase one himself, several men should get together and purchase one in a community, or it may be that he can rent one for the time being from a neighbor. The corn harvester cuts the crop close to the ground, thus gathering all of it, and ties it in bundles that are conveniently handled. Corn should not be cut for silage until the ear is perfectly formed and well glazed; in fact, until it has passed out of the dough stage. The lower leaves should then be tinged with brown while the upper leaves show a healthy green color. The time of cutting the crop for silage will have much to do with the value of the silage obtained therefrom. Many persons cut the crop when it is too young; thus they get an undue amount of water in the silo, resulting in soured silage, and they become disgusted with it as a food when the fault is all their own. The crop must be watched and the minute it is ready operations should be commenced and pushed with the utmost expedition, for in hot, dry weather which is likely to prevail at the time of filling the silo the crop soon passes out of the best condition for making silage. The writer has seen a crop of corn ready for the silo one day, and two days later quite burned up and so dry that if put in the silo without liberal supplies of water, it would fire-fang and be of no service as food. Should this condition arise, and every effort should be made to avoid it, use plentiful supplies of water, though not excessive quantities, and the stalks will absorb enough moisture to prevent fire-fanging and keep the silage in good condition. It is not good practice to add water, and every effort should be made to avoid the necessity of doing so. Comparatively few people believe in the virtues of sorghum for silage, thinking it makes a sour silage and that it is unsatisfactory as a foodstuff on that account. Sorghum silage of the very choicest quality has been made at the Station farm for several years past. There has not been a single failure, though the writer has seen many instances where the silage was too sour and hence very unsatisfactory. In nearly all instances the trouble in making sorghum silage is due to the fact that it is cut when too green. Sorghum is more retentive of water than corn and is much slower in maturing; that is, it is not ready for the silo today and past the right stage tomorrow, as is so often the case with corn. As a rule, it matures later when the season is cooler and hence it can stand for several days without serious injury. Sorghum should not be cut for silage until the seed is perfectly formed and passing out of the dough stage. It should not, of course, be perfectly hard, though if cut at that stage the seed would mature and probably germinate satisfactorily the next year. It would not be advisable to use them for seed, it is true, because the most perfect development would not be obtained, and hence if the practice were continued for several years, it would gradually lessen in vitality until it would utterly fail. Special emphasis is laid on this point for the reason some persons might imagine they could save sorghum seed from a crop cut for silage and thus institute a fatal practice that would in the end breed disastrous results. Let the sorghum mature well before cutting for silage; then it may be cut with the harvester as in the case of corn. If it is sappy and late in the season allow it to lie on the ground for from 12 to 24 hours, so that a part of the surfeit of moisture it contains may escape. It will still contain plenty of moisture to insure its keeping perfectly and there will be no danger of producing a sour silage. Corn and sorghum when mixed in equal parts also form a very satisfactory silage; especially is it desirable to mix the two together, provided the corn is slightly dry. They should be grown together or seeded so as to mature about the same time. One of the best forms of silage used on the Station farm so far has been a mixture of half corn and sorghum seed with the usual amount of cow peas. The mixture of the two insures the production of an almost perfect silage. The seeding may be done with a 2-horse drill by placing the corn in one hopper and the sorghum in the other, using the necessary plates. The peas may be planted with a single stalk drill run very close to the row on one or both sides. Sorghum is so retentive of the natural juices that when a surplus crop is produced it can be cut and bound with the corn harvester, set up in large shocks, securely tied near the top and two or three feet lower down and left to stand in the field for several months and then hauled in and run into the silo. Occasionally it will be a great advantage to be able to handle the crop as indicated. Should the sorghum be very dry by reason of a dry season, do not forget the advantage of putting some water on it, though one must exercise great care here, as an excessive quantity of water will have a more injurious effect than it would in the case of corn.

A farm truck is the best implement for hauling silage to the cutter. It should have a wide frame built over the trucks and the sheaves can then be handed up by one man and placed by the other. As the green crop is heavy it is necessary that the frame come low to the ground in order to facilitate the ease and quickness of loading and unloading the crop. The blowing type of cutter is now generally preferred for the making of silage, as it disposes the mass evenly in the silo and thus lessens the number of men required to distribute and thoroughly tramp it. The old type of cutting box with carriers, also does satisfactory work, the one objection to the blowing machines being the greater amount of power required to give them sufficient speed to do their work properly. At least three teams should be available for the most rapid making of silage with an equipment of the kind indicated. Every farmer had best own his own silage cutter, though he can generally hire an engine in the neighborhood for a reasonable sum. Either gasoline or electric power, if he is so situated as to avail himself of their use, will be found satisfactory. The tread power may be used sometimes, though it does not always give the required amount of energy to run the machines with the greatest economy.

It is a very important matter to see that the silage is properly distributed and tramped as put into the silo. This point cannot be emphasized too strongly, for it is one reason why silos have so often proven unsatisfactory and why so much bad silage is found each year. At least two men should be kept in the silo all the time; men who will work faithfully and whose principal effort should be directed to throwing the silage along the outside walls and tramping it down securely, and especially is this an urgent matter if the silo happens to be a square or rectangular one, though it is a very important matter in any form of silo. The silo should be filled clear to the top, and if it settles, re-filled again. It will not be necessary to put some artificial covering over the top of the silo to preserve it if the refilling can be done a day or two after the first filling. It is important to cover the top of the silo with something that will effectually exclude the air, thus preventing the moulding or decay of the first foot or so of silage. The loss entailed through improper covering is a serious one and as it can be easily avoided, greater care should be exercised in this matter. One of the best means of preserving the top of the silage is by the use of water. Wet the surface down thoroughly and repeat two or three times if necessary. This tends to exclude the air and a light mould of from one to three inches will form over the top that will preserve the silage. Sawdust may be used to advantage, though it is sometimes difficult to get a supply of it. It should, of course, be wet down when put on. It may be carried to the top of the silo by one of the blowing types of cutters, which is a great advantage. Weights and boards may also be used, though these probably entail unnecessary labor as the water is quite as effective as anything that has ever been tried and is cheaper and easier to handle.

Tennessee Experiment Station.

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Grow Your Own Protein on the Farm.

DR. GALEN WILSON.

All dairymen know that their chief expense in the line of cow feed is protein grain feeds to balance up the rations, as wheat bran, linseed, cottonseed and gluten meals principally. In all large and well conducted dairies we will find in cow barns capacious bins for the storage of these meals, as the wise dairyman looks out ahead and purchases these feeds when they are low in price, as they most always are in summer time. The dairyman may now tumble these large bins and boxes out of doors if he will and use them for pig pens and chicken coops and save an annual expense of about $10 a cow by growing his own protein in the form of alfalfa hay. I am led to these remarks by an excellent article in the Nebrask Farmer, by Hon. F. D. Coburn, on "Progress in Alfalfa Culture;" and an article in Hoard's Dairyman, on "New York Dairymen Who Grow Alfalfa, and Their Methods," by that capable and terse dairy writer, W. H. Jenkins. Last year Kansas grew almost half a million acres of alfalfa. We also know that Kansas is a great corn and cattle State. Heretofore that State wintered her cattle mainly on corn fodder. This alone will not winter cattle well for sad lack of protein. The nutritive ratio of field cured stover (as it usually is in the West), is as 1:15, altogether too wide a ration for good results. Now alfalfa has a feeding ratio of or value of 2.0. Now mix the two in equal parts and it gives a ratio of about 1:8, almost the identical ration that most stock requires in winter for best results. The proportion of alfalfa to be fed can be increased or diminished as the several kinds of stock to be fed require. Thus Kansas, or any other State, can feed its corn stover either dry or as silage and have a balanced ration all the time. But this new and comparatively inexpensive method of balancing the ration will be appreciated most all through the East, and especially by the dairymen. It seems that Mr. Jenkins is a traveling dairy investigator and writer. He is visiting patrons of creameries now in Onondaga Co., N. Y., where I was born and reared. I was not aware that alfalfa was grown there at all. He declares that alfalfa has been grown there 10 or 15 years, and that the growing of it by dairymen is quite general. I will quote from him: "F. H. Gates & Son have a dairy of 35 Holstein cows and much other stock. They have 50 acres in alfalfa. The yearly cost of keeping a cow on alfalfa, ensilage and pasture is about $30 a year. The gross income from the dairy is over $60 a cow. They feed a very little grain; but I found other dairymen in their vicinity who obtained nearly as good results with alfalfa and corn ensilage or stover. * * * Patron No. 31; cost of keeping cows per head one year, $27.40; ration, roughage, alfalfa hay, corn stover and pasture, four pounds wheat bran and oats per day for two months in the spring; no grain at other times. Returns from creamery per cow, $55.67. The alfalfa hay this patron fed in winter saved his grain that he would have had to feed to balance his ration, and he made a good profit. Patron No. 32: Cost of keeping per cow, $27; ration, roughage, alfalfa, sweet corn stover and pasture; 5 pounds of dried distillers grains for two months in spring. Sold milk and butter. Patron No. 33: Cost of keeping, $28; ration, roughage, alfalfa hay, stover and pasture, 3 pounds of dried brewers' grains for three months in spring. Sold milk and butter. Patron No. 35: Cost of keeping, $26; ration, alfalfa hay, corn stover, pasture and a very little grain. Returns per cow from creamery, $43.25. Patron No. 37: Cost, $27 per cow for feed; ration, alfalfa hay, corn stover and pasture, no grain. Returns from creamery, $54 per cow. Here we have evidence which shows the value of alfalfa as a protein food to balance up the carbohydrates in the corn stover. From the alfalfa hay the cows obtained sufficient protein to make an average of 5.709 pounds of milk, which made 256 pounds of butter and brought $54 and made a net profit of $27." But enough has been quoted to show the trend of alfalfa feeding and the uselessness of purchasing expensive protein feeds. Why should it be purchased when it can so easily be grown at home; easier than it is to grow so much meadow hay? In fact, the same breadth of land will grow twice the amount of alfalfa hay that it will of any other kind of hay. This was done here right near my own home and not a thousand miles away.

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ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

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Some of My Experience.

SAMUEL C. RYNERSON.

The P. F. is the best farm paper I have read, to my notion; Mr. Terry on farming, Prof. Massey for the Southern cotton, tobacco, etc.; in fact, all departments are well and carefully made up. And I will suggest that all hog growers should read and pattern after Forest Henry on hog growing. I think we cannot fail if we follow his advice. I have learned more from him than anyone else except my father. Last year I did not sow clover in spring for this year's hog pasture; after reading Forest Henry's sowing clover in corn at last working I sowed clover in corn on the 15th of July, used a drag to cover the seed. Now, June 8th, my hogs are doing nicely on clover that is up midside to them and a fairly good set. Mr. Henry also recommended sowing Dwarf Essex rape on the clover, which I did on the 16th of March, and it is now filling all space not occupied by the clover. The rape with us lasts one or two months after clover goes down by frost. Last year sowed rape on good muck land the 13th of July; on August 10th was large enough to turn stock on. A neighbor sowed three acres in April, kept 72 hogs on it until near Christmas; says it would have kept twice as many, and he never had hogs do better. For this locality I think rape is the greatest acquisition to hog growing since the introduction of clover. Mr. Henry says he uses two fields adjacent to his permanent hog pasture alternately for clover and corn, sowing clover in corn after last plowing, and in fifteen years has not failed to get a good stand. Three years ago I sowed a run-down field of three and a half acres to oats and clover. Two years ago hogged down the clover; last year got 60 bushels of corn per acre, and sowed clover in corn, which I am now pasturing with hogs.

From present appearances the rape which I sowed on the 16th day of March will make good pasture for the hogs a month or two after frost kills clover. I sowed rape on clover in tall corn stubble and did not work the ground, but think it would have done better if I had harrowed or dragged ground. Many men hog down a field of corn to start their hogs on the way to fatten. Now, friends, where you do that be sure and sow rape in the corn at last working, or if you do not turn hogs on corn sow a small field of corn to rape, gather and feed the corn only, and turn your hogs on rape afterwards to fatten. I also agree with Mr. Henry when he says he can feed his hogs so they will not root his sod up. For five years I have had from 12 to 20 head of sows, and the pigs produce, on my blue grass, and I do not think there is a better stand of blue grass in the neighborhood. A hog is lazy and will not root if he has proper food and room for exercise. My pasture is nine acres blue grass and nine acres woods; also the clover field during its season. Be sure and plant plenty of pumpkins in corn or by themselves. I have not put a ring in a hog's nose in five years. I make my main feed of corn, with pumpkins, bran and shorts. I think Mr. Henry did not make a mistake when he paid three hundred dollars for bran and shorts for his 100 head of hogs. Corn and clover are all right without other feed. When you sow clover in corn the more you work your ground between rows and the more you pack the soil the surer you are to get a set.

Vigo Co., Ind.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Goitre. — What is the matter with my shoats? They have knots as large as goose eggs under their throats. Some have two knots, one on each side, and some have just one knot, and they are very hard; seem like kernels in them. CLARK LEMASTER.
Manila, Ky.

We do not think that wheat beards have anything to do with the trouble described. It is more probably a swelling of the thyroid glands which is termed goitre when excessive. The cause is difficult to find, but it may be that the pigs are weak in constitution, so that a change of blood is indicated in your herd. At the same time we see it in tuberculosis when the parotid glands are involved and in some forms of sore throat. On general principles we would advise you to rub the throat once daily with a liniment of equal parts tincture of iodine, turpentine and alcohol until skin becomes sore, then apply lard daily. Feed well on such nitrogenous foods as we have so often mentioned here and include dried blood meal as the pigs are not thriving well.

Elongated Tooth.—I have a horse which has a big jaw tooth that keeps him from chewing his food. I feed him five to six quarts of purina feed twice a day when he is not working. When working I feed him the same amount three times a day, and all the rest of the time he goes in the woods.
St. Elmo, Ala. BERNARD BISHOP.

It will be impossible to help the case without first either cutting off and filing the tooth if it is merely long, or extracting it if diseased. If it is in the upper jaw it will have to be removed by trephining through the bones of the face. A veterinarian will be needed for this.

Retained Afterbirth. — I have a valuable cow due to bring a calf about the last of September. She is about 8 years old and this will be her fifth calf. I had trouble with her when she brought her last calf, as she did not clean thoroughly for two or three days. I always feed her bran and shorts with about half a pint of flaxseed meal for a couple of weeks before calving time; her pasture is wild grass with an abundance of white and Japan clover. She is a hearty eater and gets fat when she dries up her milk, generally about two months before calving.
Gentry, Ark. S. BEAUMONT.

Feed her bran mashes and flaxseed meal but no shorts for two weeks prior to calving, and a week before her time give a pound dose of epsom salts, one ounce of ground ginger root and a cupful of molasses in two quarts of warm water as one dose. Should she not clean promptly after calving give her eight quarts of whole oats at one feed and inject into womb two gallons of warm water in which mix two teaspoonfuls of Chloro-Naptholeum. Allow plenty of exercise daily.

Weak Back. — I have a Chester White sow three months old. When I touch her on the back she will squat down.
Marionville, Mo. FRANK PARKS.

See answers in back numbers of the paper dealing with paralysis in swine. Change feeding to nitrogenous foods, such as middlings, bran, dried blood meal, flaxseed meal, milk, etc., and mix lime water in the food and drinking water daily. Allow plenty of exercise on green grass, clover, rape, etc. The trouble is generally due to feeding on corn. Worms are also a common complication and when found to be present turpentine should be given in milk as so often advised in this department.

Sick Cow.—I have a cow three years old; dropped her first calf 30th of May last; was served by bull about 20 days ago. She has always been healthy and thrifty. She has been running on an excellent pasture since May last. Since turned to pasture she has been fed nothing and has been doing well, giving a quantity of good, rich milk. The calf has not been taken from her, but has been allowed to suck each time before milking. From the beginning of lactation she has manifested a peculiar nervousness and sensitiveness about the udder, first raising one hind foot and then the other, returning it to the ground and kicking slightly, not with viciousness seemingly, but as if it gave pain to draw the milk. There has been no obstruction to the teats; no garget or caked udder, but when the milk was all drawn her udder was soft and pliable; in fact, nothing wrong that could be discerned, except the inconvenience she gave in milking. She showed the same sensitiveness when the calf sucked. W. C. PAYNE.
Rhea Springs, Tenn.

Under the circumstances it would be wise to have the cow tested with tuberculin, as tuberculosis may well be the cause of the symptoms stated. If there is a veterinarian in your district he will be able to test the cow for you as advised. If she proves to be free from this disease write again for advice.

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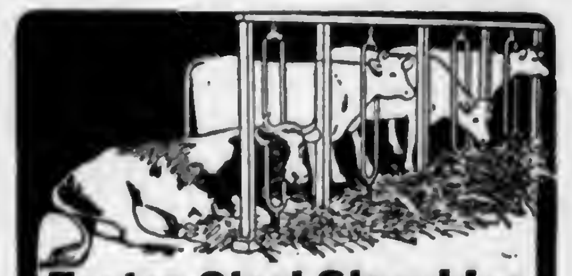

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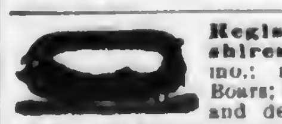

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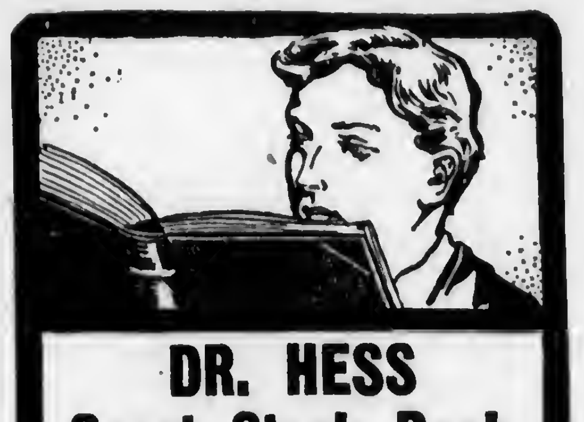

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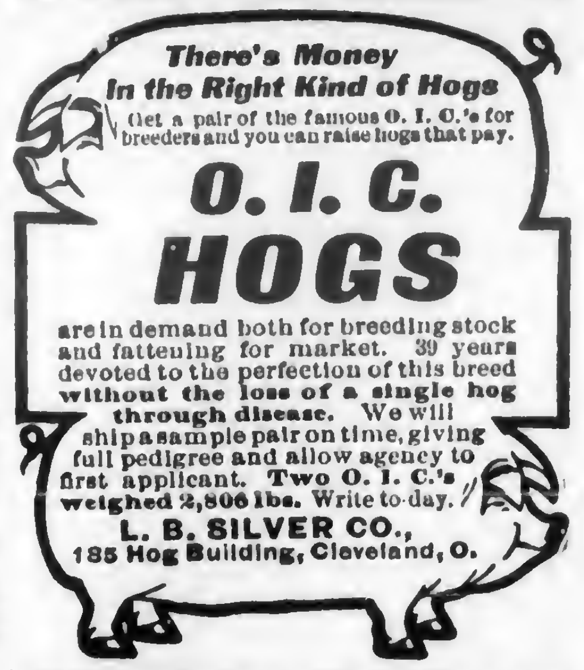

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Beets for Profit.—A year ago I came to the conclusion that early table beets are very promising as a money crop, especially when started early under glass and transplanted in same manner as we have grown the Prizetaker and Gibraltar onions. This year our local market takes readily to this crop, even when grown in open ground entirely, and somewhat late. I don't know but that for early money I would risk a crop of beets started from seed under glass in February or early March and transplanted to open ground in April (as early as the ground is in proper order) as a crop of Prizetakers or anything else. We are making bunches of three beets each, and selling two for a nickel right along. We grow the six specimens required for the 5-cent deal in but little over a foot of row, and surely not over 18 inches of row, the rows being 18 inches apart. In other words a space 18 inches square brings 5 cents, which is at the rate of $968.00 per acre. We now have a number of good varieties of early beets. I never liked the Early Egyptian, although it is very early. Its shape did not please me, and it soon gets tough and woody after reaching table size. Crosby's Egyptian, however, is most excellent, both in form and keeping. We have no fault to find with it. It does not remind one much of the Egyptian. Eclipse is quite good, too, and will answer the purpose first rate. Market Gardener's beet is a little later, and larger, of excellent form and smooth.

Green Beans as Second Crop.—Late snap beans often come very handy and prove profitable. We can often grow a good crop on the old strawberry bed, plowing the patch up soon after the picking season, and cultivating it thoroughly until the top is all smooth and the berry plants all torn out or buried. Then plant in same manner as the first crop was planted, namely in rows 2 to 3 feet apart, and having the plants stand 3 or 4 inches apart in the rows. The beans grow quickly, and will often find good sale at this time. But by keeping the pods picked off clean from the first plantings, we can prolong the picking season for some weeks, especially if a good share of the old tops are broken or trimmed out. Green beans may also be grown after early cabbages. E. G. Tufts, of Indiana, who grows green beans for the home cannery, says that to plant beans after cabbages, it is not necessary to re-break the ground. When the cabbages are nearly all taken off the field, the space between the rows is plowed with a small shovel plow, and the beans drilled in between each two rows of cabbage. In this way, the beans will get an earlier start than if we wait until the cabbages are all removed. By the time all the cabbages are sold, the beans will be large enough to be cultivated. An excellent yellow-podded string bean is Davis Kidney wax. A very delicate thing, with pods of superior brittleness and quality, and thick and almost round in form, but not very large, is a nameless one sent me for trial by Wm. Henry Maule, of Philadelphia.

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Current Comments.

English Beans. — Mrs. Nellie Fiske, Shasta Co., Cal., writes: "We see in the P. F. of June 27th an item on the English bean. I send a sample. Are they good to eat? We grow them for ornament; have thought they ought to be of some good. I find they are to be planted early to mature well. Can horses eat them, and when? Am told they are good in soup." The beans received are not the English, Broad or Horse bean, but probably one of the "English" flowering runner varieties. The English or Horse bean makes an upright, bushy plant, and bears large, flat, angular seeds of yellowish or brownish color, in pods that are as stiff as those of the Japanese soy bean. These beans are about as hardy as peas, and require a long, rather cool season. Most portions of the United States are too hot for this class of beans. You might try the bean you have as a table vegetable. The English Broad bean is used in England more for stock than for human feed, except in a green state, when it is sometimes served as we do lima beans.

Spring Onions.—Max M. Weber, Tiffin, O., writes: "In May or June I read about 'Onions Profitable,' on page 286. All I remember is that Potato onions are preferred. Please tell me where I can get these onions, and give directions how to raise them again." Potato onions may be had of almost all seedsmen. Wm. Henry Maule, of Philadelphia, catalogues them. By planting in late fall, you may have an early crop. For spring bunch onions I often have good success by sowing seed, rather more thickly than for the regular crop, in well prepared ground in August, selecting Barletta, White Portugal, Hardy Winter or similar hardy sorts.

Wintering Onions.—"Farmer," East Tenn., writes: "Can onions be kept in cold storage? If so, what temperature should they be kept?" Keep the onions dry, and as near the freezing point as possible without actual freezing, and they will keep all right. They will also keep if stored in a uniform temperature just below the freezing point, *i. e.*, actually frozen. In this condition they should not be disturbed, and as soon as thawed out, should be spread out to dry and kept dry until used.

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Notes from a Carolina Garden.

We are in the height of the grape season. Delawares and Concords are now ripe and are eaten by all hands, while the Champion, which has been ripe since the middle of July, is untouched. Another grape which is little talked about we find very useful, especially with those who prefer a Concord to a Delaware. This is the Lutie, a large red grape, nearly as large as Concord, and very sweet, but very foxy in odor. It is about the most resistant to disease of any of the 300 varieties we grow. I have never seen it rot at all, even when not sprayed. Notwithstanding its foxiness I must confess that I like this grape and admire its robust health and immunity to the evils that strike other grapes. All the grapes common in the North are here classed as "bunch grapes," to distinguish them from the Scuppernong class, which produce their fruit in little clusters of half a dozen berries. Between the bunch grapes, which ripen here in July and are over in August, there is a gap in grapes before the Scuppernong and others of the Vulpina class are ripe, and then the market turns southward and the baskets of grapes come this way from the North instead of flowing North as they do at present. The early ripened grapes of the South do not keep, and still later in the season, after the Scuppernong season is over, we get the cold storage grapes of the North. One of these days someone will teach the Northern people to eat Scuppernongs, and then someone will find out the best way to ship them. In our markets now they are pulled off the clusters and sold by the bushel. In this shape they soon sour and spoil, and to ship them they will have to be cut in clusters like the bunch grapes, the only difficulty being that the whole cluster does not ripen at once. Left to get dead ripe the Scuppernong is the finest wine grape of America, making a fine Sauterne without sugar, and containing barely alcohol enough to keep it. The country wine made from the Scuppernong here is vile, for they put a lot of sugar in it and make a strong, heady liquor not good to drink.

Figs are ripening, and the crop is abundant of Brunswick, Brown Turkey and the little Celestial. The last is small but is the favorite for eating fresh, as it can be eaten without skinning. The larger figs are used for preserving, and our good wife has a large, fancy jar ready to fill for the St. Louis Exposition to show what beautiful figs we produce here. We received cuttings of several new figs from the Agricultural Department in the Spring, every one of which rooted and are making a fine growth, and we hope will give us something new in figs. Some years ago we grew over fifty varieties of figs, but the larger part of them were unsuited to the climate. In fact, some of the best ones were too tender to thrive outside the orange belt, and we finally dropped down to a few sorts that are more hardy and productive. People living where the mercury drops to zero and below could grow figs easily by branching them from the ground and in the fall laying them down and covering them deeply with soil. I have carried them through winter in this way where the mercury dropped a number of degrees below zero, and had abundant crops. In the hills of Northern Maryland I grew the Brown Turkey and White Marseilles with perfect success.

In the vegetable garden we had recently the first of the new Improved Giant sugar corn sent out by Wm. Henry Maule this season. It is really a giant, the ears being of uncommon size for a sweet corn, and in quality it is all that need be desired. This promises to be of great value in the South by reason of its robust habit, for the little early sweet corns are generally worthless here. Cumberland cucumber, planted late for pickles, promises well and we will have more to say in regard to it. Nameless Wax Pod snap bean is good and makes more beans than any other sort grown. It deserves a good name and we hope that it will get it. Of all the tender and really stringless beans the New Stringless green pod is the finest we have ever tried. Tender as marrow and entirely without strings, it leaves little to be desired in a snap bean. This is another of Mr. Maule's new beans of this season. New White Seeded Wax is also very fine, and the Silver Pod bean is very attractive and popular on our table.

The greatest success in the tomato line here is the Success, with Enormous a close competitor. We have never had a greater abundance of tomatoes of finer specimens than we have had this season from these. We find that training to stakes and pinching to single stems enables us to plant closer and thus protect the tomatoes from sun scald, which injures a great many when allowed to sprawl on the ground. We have just set a fresh lot of late sown plants to give tomatoes for late fall use and winter. When frost comes we gather the green tomatoes, wrap them in paper and pack in crates and put in a cool cellar and from time to time take out a few and bring them into a warm room to color up. In this way we generally have good tomatoes for slicing till after Christmas.

Dreer's Wonder bush lima bean is redeeming its first promise and is loaded with beans of large size. It started to make long runners but concluded to stop and load itself with bloom. Another season we expect to try this planted at same time with the Wood's bush lima to compare earliness. Both are excellent, and we are gradually dropping the running limas entirely, having but few in the garden this season.

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"O. I. C. Hogs."—That is the most prominent thing in the advertisement of the L. B. Silver Co., 185 Hog Bldg., Cleveland, Ohio. This firm have made a national reputation on that breed of hogs, having made a specialty of it for 39 years. The O. I. C. hogs are remarkably hardy, the firm having never lost a single specimen by disease in all the years in which they have been breeding them. With a pair of them for foundation stock the hog raiser is sure of success. Write for prices to the above address, mentioning the P. F.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Tree Enemies.

To the observant person it is of much interest to notice how insects injurious to vegetation come and go. There are rarely two consecutive seasons in which the same insect is of equal evil. The tent worm, the bag worm, the tussock moth, the May beetle, the measuring worm, the green fly and many other pests are in great numbers one year, and may hardly be noticed the next. Two years ago the tussock moth and the tent caterpillar were in untold numbers in the vicinity of Philadelphia. Last year but very few were about, and this year hardly any. This season the great pest is aphis, or green fly, complaints coming in from far off States as well as from near home. Peculiarities of the season no doubt have a great deal to do with these things. The one who goes into the raising of trees must expect to meet these enemies, and he must overcome them. The green fly pest of the present season is on apple, cherry, and almost all fruit trees, as well as rose

bushes and flowering shrubs and plants. It is to be met by syringing the trees or bushes with tobacco water, which is made by soaking enough tobacco stems in water until the latter is well discolored. The syringing should be done as soon as the flies are noticed, as they are very injurious, sucking the sap from the leaves, and causing them to curl. All injury to or loss of the foliage are to be prevented if possible, trees showing quickly their growth is checked when such injuries occur.

The Cherimoya.

A writer in an Eastern paper, who has returned from a trip to California, speaks of a fruit he saw in the market of San Francisco, called the "cherimoya," which he speaks of as being in appearance a small, round plum. From the description of the fruit it would indicate it to be a plum, such as the Myrobolan; it is certainly not what is known as cherimoya. The latter has no relation to the plum, nor any appearance of one. It belongs to the pawpaw family, and botanically, is Anona Tripetala. Besides the common name of Cherimoya, it has another, viz., Jamaica apple. Though a pawpaw, fruit has no resemblance to the banana-like appearance of the Northern fruit of that name. It is round, of the size of an apple and larger, even as large as six inches in diameter at times, and it is said to be delicious flavor. In Peru, its native country, it is highly esteemed, and is considered not inferior to any fruit in the world. It will succeed in California where it does not freeze, and in Florida and other frostless places. From the description of the cherimoya by the writer referred to and by others at previous times, what the California markets show cannot be the true cherimoya; and it would be interesting if some of our correspondents in that State would tell us what the fruit so-called really is.

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Horticultural Queries.

Weevils on Cherry Trees. — Enclosed in package you will find two limbs of my cherry trees, also a little phial containing two little insects. The smaller one is the one I find in the little hole in limbs. Your advice in June 20th P. F. brought out the discovery of the little insects, always on south side of tree. Is the larger insect any relation to the smaller one? You will see by the holes in wood his habits are bad. Who is he? The trees are the Napoleon Bigarreau variety, also Montmorency, but he seems to like Napoleon best. N. D. EVANS.
Happy Camp, Cal.

Wishing to get the best information possible for you, your specimens and letter were sent to Prof. L. O. Howard, of the United States Dep't. of Agriculture, Washington, and herewith you will find Dr. Howard's reply. You will notice that his opinion coincides with mine already given you, that the dead limbs are not the result of the insects' work. It is the work of a fungus, I think.

"I am in receipt of your letter of July 17th with enclosure from Mr. N. D. Evans, including a letter and specimens. The two twigs of cherry trees are infested by a little weevil known scientifically as Rhyncolus Brunneus. This or a related species has previously been reared from dead cherry, and it seems probable that the insect is not injurious, as Mr. Evans supposes. I would advise, however, that Mr. Evans look further and see if he can find the insects going to living growth, and send them direct to this office if possible. I will then advise as to the remedies if any seem necessary. Mr. Evans' letter is returned, as requested." Yours truly,

L. O. HOWARD.

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Horticultural Notes.

Hollyhocks almost disappeared from many places some years ago, the fungus of the leaf killing off the plants. Bordeaux mixture has about eradicated the disease where it has been used, and once more the good old hollyhock can be seen in our gardens.

Siberian Crab. — The old red Siberian crab is still the favorite with housekeepers for preserving. The yellow and even other kinds, such as Transcendent and Van Wyck, may make just as good preserves, but a pretty jar of fruit goes as much towards its recommendation as its quality.

Evergreens.—How greatly it adds to the good appearance of a place to have in sight a few evergreens in winter. Besides pines, firs and the coniferous ones, the broad-leaved section, embracing enonymus, rhododendron, evergreen privet, laurel, etc., offer a good choice of selection.

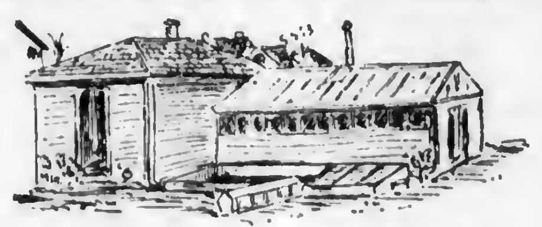
Horse Chestnuts.—Besides the value of a horse chestnut to keep in the pocket to "keep away rhumatism," as the natives of Jersey say, the nuts are in repute for medicinal purposes, our seedsmen say, drug houses buying them by the bushel in their season of ripening—September. The horse chestnut makes a beautiful tree when in cool, deep soil, but its foliage gets diseased in dry ones.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Poultry House and Greenhouse Combined.

L. D. Denneth, of York Co., Me., as reported by the American Agriculturist, combines glass gardening and poultry raising with some sort of success in a village backyard. The accompanying sketch gives a general idea of his poultry house and greenhouse combination.



The poultry house is 10x20 feet in size, and directly connected with a greenhouse 12x18 feet. The poultry house is divided into two pens and provides room for about two dozen fowls. During a recent year Mr. Denneth started out with this number, and ended the twelve months with 65. He obtained 4,458 eggs, and made a net profit of over $100 from his flock. This shows that it does not require a farm, or acres of land, to be quite successful with poultry on a moderate and modest scale; and that a small flock often brings in the most money per capita.

The poultry editor knows from his own personal experience that a little greenhouse is a very useful, very convenient annex to a modest suburban or country home, and he has often used the floor space during March and early April, when the ground outdoors was snow covered or frozen, or wet and cold, for a run for incubator-hatched chicks that he could not risk outdoors. A poultry house and greenhouse combination is a good thing for a village backyard. It is a great comfort to have it and its use, both in the poultry management and in the production of early vegetables and vegetable plants, and flowering plants besides. Mr. Denneth's example is worthy of imitation.

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Seasonable Suggestions.

Hens and the Garden. — A flock of hens is often a great pest in the garden. We have had our neighbor's hens in ours a good many times, and were puzzled how to save our early planted stuff from their scratching propensities and inclinations. On many farms the poultry house is located at no great distance from the garden, and the large flock runs all over the farm, the garden not excluded. It is often quite a task to devise means of how to keep the hens out of the garden in early spring when we first prepare and plant the soil, and deposit seeds in shallow drills where they are easily dislodged, and the whole surface disarranged in a most annoying manner. We do not wish to confine the fowls, and we would suffer a material decrease in the egg yield if we would. Our plan is to feed heavy, and always at a spot as far as possible away from the garden, scattering the grain (whole wheat or oats) among the litter and rubbish where the hens have to scratch for it to get it. The water fountains are also placed at the very opposite corner from the garden if convenient. Then we put an ash heap, for the hens to dust themselves in, not far from feeding grounds, and we also try to plow up a patch of ground in the same vicinity, so the birds can have another chance to scratch and wallow in the freshly stirred soil. All these are easy, and ordinarily successful methods of keeping the fowls away from the garden. Whenever the birds take a notion to enter the garden, they are chased back to their feeding grounds, and if they persist, chased back rather roughly a few times until they have learned that they are not wanted in the garden, and stay away. They usually do that after a while. When it comes later in the season, however, there are often extra inducements for the hens to come to the garden. There are the vines of early peas, now past their prime, but with well-filled pods of nearly ripe peas still on them. The hens like them and unless very heavily fed, will be bound to come after their share. If we notice any such thing, the vines are at once pulled, and carried to the regular poultry runs, where they are spread out for the hens to work over. That will "hold them for awhile." In many instances, it takes considerable work, and watching, and chasing, to keep the hens out of the garden, but this must be done if we want to keep our garden in best order, and save our crops. Sometimes there is trouble in this respect with the tomatoes, of which chickens are as fond as people.

Gathering Eggs. — At this season more than at any other, it is very important to be particular about gathering eggs. This should be done regularly, and if possible always by the same person. When a new or "stolen" nest is found, as often happens on every farm, the eggs should be kept separate from the regular yield, and thoroughly examined before using, and, in fact, better used at home for cooking if all right. Don't sell any eggs about the age and condition of which you have the least doubt. For putting up to keep for fall or winter use, after treatment with waterglass or vaseline, use only strictly fresh eggs, and treat them and put them up at once, and preferably use eggs from a flock of hens kept without male.

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Queries Answered.

Hen Lice. — Miss Eliza Jones, Hartford, Mich.—"Kindly tell me if the enclosed specimens are regular chicken lice. It is three years since we began to keep poultry and we have never been troubled with the pests. In fact we have prided ourselves on the cleanliness of our houses. In April we sold all the fowls from one of the houses and last week discovered these insects on the wall of that house. We found none on the bodies of the fowls we now have. The house will be used again next winter for poultry." The insects when received came in such poor condition that we could not identify them. Evidently they are too large for hen lice, and as they are found on the walls of the buildings and not on the bodies of the hens, it is plain that they are not the regular hen lice. If our inquirer has never had any lice on her hens she surely has done better than nine out of every ten poultry keepers. There are very few flocks of hens in the country, no matter how cleanly they are kept, but what have at least some lice on them. If in moderate numbers, lice do but little harm, and yet we would even try to get rid of them, which can be easily accomplished by dusting the feathers or the fowls occasionally with tobacco dust, or with buhach, lime, etc. The vermin in the poultry house, whatever insects they may be, should be destroyed, and the mites and germs of disease that may possibly have found lodgment in that building also, with them, by thorough fumigating with burning sulphur. Use plenty of sulphur and keep the doors, windows, or all openings tightly closed for a day or so—and you will have little trouble from lice or other insects in that house for a long time.

Improving Plymouth Rocks. — Geo. M. Young, Red Hill, N. C.—"Plymouth Rock is my favorite stock, which I hope to improve by crossing with a larger stock. Please recommend a poultry book which contains good instructions as to the crossing and raising of poultry." I do not know of a really good poultry book that would give good advice in regard to "crossing" breeds. Any book written by an author of sense will tell you to stick to pure breeds. Try to keep your stock pure, but to improve it by selection of superior specimens. A little later in the season, breeders who have surplus stock of good strains of Plymouth Rock and other breeds to sell, will tell us so through the advertising columns of the P. F. and other papers. Then try to secure one or more good specimens and mate them with your hens on the approach of the next breeding season. To make good breeding stock, however, requires some judgment and good management. Select a number of good hens, of typical (or the desired) form and color, of high laying qualities, and keep them in good health by moderate feeding, being careful not to get them too fat. Do not stimulate them to lay until near the breeding season. Give them plenty of exercise, and if possible, free range where they have to work for their living. Then, if the male mated with them is a good one, the birds hatched from the eggs produced by the flock will be of strong vitality, and likely to develop into good stock.

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PROF. W. F. MASSEY, Editor.

Philadelphia, August 22, 1903

THE value of the cotton crop of 1902 was $34,500,000 greater than the value of the wheat crop of the country. A year's exportation of cotton was $77,517,475 more than the total of breadstuffs exported and $90,790,441 more than the meat and dairy products. Adding the exports of cotton goods and cottonseed oil, it is shown by the census figures that more than one-fourth of the exports of the U. S. come from the cotton crop.

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Growing Fence Posts.

Much interest is being manifested in the growing of timber trees on waste lands in various parts of the country. Many are recommending the catalpa as a rapid growing tree. It is a rapid growing tree, but in our experience the ravages of the catalpa caterpillar make its culture rather uncertain. This insect may not be plentiful in all parts of the country, but with us they defoliate the trees every summer and check the growth to such an extent as to make them worthless for posts. The best tree we have ever experimented with is the yellow locust, known as black locust in some sections. We have trees of this species which in seven years from the seed were plenty large enough to make good fence posts. Everybody knows the value of the locust for posts, for there is no wood which lasts longer in the ground. The trees can be thinned when large enough for vineyard stakes or other purposes, and a little later another thinning can be made for the manufacture of insulating pins for telegraph and telephone poles, for which this timber is almost exclusively used, and the mills engaged in this manufacture are fast using up the natural growth of the locust in the mountains of the Appalachian system. The locust sprouts readily from the stump and the plantation will rapidly renew itself if properly thinned.

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An Agricultural University.

What is now needed in this country as the capstone of the great system of colleges of agriculture, is a great National University of Agriculture, where the graduates of the colleges, who intend to devote their lives to the work of investigation in any branch of soil culture or the sciences connected therewith can have the opportunity to study their specialty and be prepared to become the future investigators at the State Experiment Stations. A university with broad acres for the farm laboratory, with abundant barns and buildings for live stock of all kinds, with scientific laboratories in chemistry and biology, hospitals for animals and general equipment for investigation along all lines of human study connected with the farm and garden. A place where each student can take up some special line of investigation and be guided in his studies and from which the Stations can at all times draw for specialists. Unfortunately, we have not, like Canada, any purely agricultural colleges, and those we have are handicapped by the necessity of giving almost primary education in all that pertains to the farm while giving, too, a general education. Few of the young men thus educated are ready to take independent places as investigators in the Stations, and the Stations are handicapped by the necessity for training the men who come as assistants. A great National post graduate school, where the best training could be given, and the men allowed to specialize, is the need of our agriculture today. When will we have it?

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The Man Who Knows it All.

We have met men who are really well educated and trained in their respective vocations whose usefulness is greatly interfered with by their abounding conceit that they have comprehended all knowledge in regard to their profession and they look with a complacent condescension on the opinions of others equally well qualified to form an opinion. This sort of pride of knowledge is more common to the young graduate than to the older men, but often is shown by men whose age and experience should have taught them the fact that all knowledge will not die with them. This is especially true in agricultural matters. Agriculture is developing in every line annually, and the man who assumes that there is nothing more for him to learn, and that all who differ from him are ignoramuses has gotten into a pitiful condition, and is not likely to learn more. The man who knows all there is to be learned about farming, stock breeding and feeding, and looks with disdain on the opinions of other men of experience has reached the utmost limit of his attainments, while the man who realizes that the more he learns the more there is yet to learn, may differ from others in the same profession on certain points, but he will never lay down his ideas as the law and cast slurs on those who are trying to advance, it may be a different way from that which he has followed. We are not writing now of the really ignorant cultivator of the soil who despises all book farming, but of the large class of educated men, many of whom are disposed to arrogate superior knowledge to themselves, and fail to understand that other men may at times be right when they differ from them. It is the great fault in agricultural discussions that these men are apt to fail to discuss the subject in hand in a liberal way, but want to dictate opinions to everyone else, and to cast insinuations of ignorance on those who may differ from them. There is no more pitiful condition for an educated man to get into than that of imagining that he "knows it all" better than anyone else, and cannot be taught by others. One of the greatest values that an agricultural paper can have is in the interchange of opinions about farm matters among men of training and experience, when each realizes that other people may know something as well as he does, and each has a respect for the opinions of the others. But the man who "knows it all," and is impatient of all criticisms, and throws out personal slurs when he should bring real arguments forward, is a nuisance in a paper, no matter what his attainments may be.

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Specialization in Education.

"From the farm and the workshop will come the leaders of the next generation, even as those of the present generation are, for the most part, of similar origin. * * * The way toward success is longer, but our strides are greater. Specialization is an inviolable law of nature, to which man is no exception. * * How shall we recognize this in education?"—Prof. S. W. Willitson, University of Chicago, in lecture at Ohio University.

In all lines of human effort the specialist is the leader of men. Men who are not merely educated in the lore of the ancients and scholars in the old acceptation of the term, but men who have devoted their energies to the investigation of one pursuit and who are thorough in what they have learned. The lawyer has become a specialist in some particular branch of law and makes his reputation by reason of his ability in that particular line. He no longer merely graduates from a lawyer's office, but takes a special course of study in the line to which he intends to devote his life. The doctor no longer reads medicine and then takes brief lectures, but takes up a specialty in medicine or surgery and prepares himself for that in which his talents will enable him to excel, and in place of the old family doctor we have the specialist who gives his whole time to certain diseases that afflict humanity. In every line of human effort men are devoting themselves to some special part of their profession. The same tendency is seen in the study of the broad field of agriculture. The agricultural training at our colleges of agriculture is rapidly leading to specialization. A student finds that his special adaptation is not to general soil culture but to some particular branch. The chemical laboratory attracts him, and he devotes the greater part of his time in the latter part of his course to this, and becomes an agricultural chemist, and some short sighted men think that because he does not go back to the farm that the education is a failure. But agriculture has gained in the making of a real specialist in a science on which agriculture so much depends. Another man may find that veterinary science is his forte and specializes accordingly, and the farm is a gainer thereby. In like manner the dairyman is made a specialist, the farmer a specialist in the improvement of the soil, and the gardener becomes a specialist in plant life, and each in his special pursuit takes the place where he becomes best fitted to be a leader of men. The mere getting of a smattering of knowledge of a general nature may make the jack of all trades, but never the leader. Agriculture is such a broad profession and so many roads lead through it that the student must become a specialist in some one of them if he is to reach the highest success. Education for a man's life work is what is making this Nation the leader in industrial pursuits. Even in colleges of agriculture the chair so long denominated the Professor of Agriculture no longer attempts the whole round of agricultural instruction, but specialists are at hand in the laboratory of chemistry, of biology, of veterinary science, of live stock husbandry, and on the great laboratory, the farm, and the roads to success open out from each one of these, attracting the men who are fitted for each. And the further this specialization is carried the more effective the work of the college becomes. The college of agriculture is rapidly becoming a great university, where men can work at their specialty and become experts in some one line, all aiding thus in a more thorough manner to uplift the work of the farm. The work of the college, then, must not be measured by the number who go back to the cultivation of the soil, but by the numbers who have become experts in some particular line that tends to the development of the whole. It is important, then, that the young men who are studying agriculture should, early in their course, find out the particular branch in which they can excel, and then devote their energies to becoming an adept in it. In this way only will the farmer be a thorough farmer, the dairyman a thorough dairyman and the stockman and gardener experts in their work.

The Cream of the Bulletins.

Delaware College Agricultural Experiment Station. Bulletin 61. Orchard Cover Crops in Delaware. By C. P. Close.

The subject of orchard cover crops has been agitated for years in Delaware, but the practice is not as extensive as it should be, except with the larger orchardists, who have been using them for a number of years with great success. While growers may be convinced of the value of cover crops in orchards it has seemed difficult to get them to practice what they believe. The cover crop is sown in the latter part of the season, when little growth is made. The design is to put crops there useful to the trees in place of the weeds and grass that nature will make a cover of if let alone. Sown at the proper time, which the bulletin says is about the first of August, if weather conditions are favorable, the cover crop competes with the trees for moisture and plant food, and growth is checked. This is desirable, as the trees should then stop growing and ripen their wood for the winter. Then the cover crop catches the soluble nitrates late in the fall, when the root action of the trees has about ceased, and thus saves the plant food that would escape. Again, the cover crop prevents the erosion or washing of the soil, and holds the rains for the soil which would otherwise escape on bare ground. The ground is also protected to some extent from frost and will not freeze so deeply as bare soil will. In the spring the cover crop again catches the soluble nitrates before the trees are active, and pumps the surplus water from the soil, so that the soil warms up and can be plowed earlier than if left bare. When the crop is plowed down a large amount of organic matter is added to the soil to form humus and plant food for the trees, and the regular use of a winter cover crop will tend to lighten the soil if heavy and to make land that is too light more retentive of moisture and plant food. The plants used for cover crops may be classed as nitrogen gatherers, potash plants and ordinary plants that simply return organic matter, such as rye, oats, buckwheat and weeds. The nitrogen gatherers of the legume family get nitrogen from the air and store it in the organic matter of the plants, from which it is set free in their decay. Of this class there are cow peas, soy beans, clovers, vetches, alfalfa, Canada peas and velvet beans. These can be used to great advantage on a soil deficient in humus. Under the head of potash plants the bulletin classes rape and turnips, which are useful on a soil already abounding with nitrogen and humus. At the Station seed was sown of alfalfa, red clover, crimson clover, mammoth and Egyptian clover, and other plants. Rye, sown heavily, made an excellent winter cover, and was about three and a half feet high May 14th, and was then mown and spread on the land as a mulch at rate of 7,611 pounds per acre. Cow Horn turnips made a heavy growth in the fall, but were of no use as a winter cover, since they died. They are valuable for cleaning land of weeds. Cow Horn turnips were also sown in combination with crimson clover and hairy vetch, but the turnips choked out these to a great extent. Cow Horn turnips also choked rye and crimson clover sown with them. Cow Horn turnips, rape and crimson clover did very well until past mid-winter, but the clover was choked out and few of the rape plants survived the winter. Rape and turnips should not be sown together. Crimson clover was sown at rate of 37 pounds per acre. It was nine inches high by November and made a fine cover crop. Crimson clover is a nitrogen gatherer and a splendid cover crop. The bulletin states that it was first sown in Delaware in 1885 or 1886. The writer of this sowed some there more than twenty years before that, but on a small scale. Red and mammoth clover both gave good results as orchard cover crops. Egyptian clover failed to survive the winter. Alfalfa sown in early fall was 18 inches high by November. It was sown at rate of 37 pounds per acre, but the stand was thin. It wintered well. Fall sowing is advised, as it has fewer weeds to contend with. Crimson clover made two and a half times as much weight as alfalfa, but it is far less rich in nitrogen than the alfalfa. Alfalfa is a splendid nitrogen gatherer. Hairy vetch was sown at rate of 130 pounds per acre, but it is thought that 40 pounds will be enough. The seed is too expensive to use as a cover crop at present. It is so satisfactory that it would pay to sow a patch for seed gathering. Hairy vetch and cow peas were sown together, but the peas smothered the vetch. With thinner seeding they will do well. Cow peas make a great growth, but die in winter and only the dead organic matter is left. It is richer than vetch or crimson clover in nitrogen. Soy beans stood more frost before being killed than the cow peas. It has about as much nitrogen but not more than half as much potash as the peas. Velvet beans were killed in October and failed as a cover crop.

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CONTENTS

AGRICULTURAL. — New Shingles Over Old Ones.—Making Upstairs Rooms Cooler.—Asphalt and Cement Floors, Concrete Walls, etc.—Health Hints. —Power of the Mind Over the Body. 113
Sowing Wheat on Corn Ground.—Winter Oats Instead of Wheat. 114
QUERIES.—Red Clay Soil of the South. 114
Subsoiling. — Farming in Central East Pa.—Rye, Crimson Clover and Grass in W. Va.—Clover and Crimson Clover in Pa. 115
LIVE STOCK AND DAIRY.—Harvesting and Preserving Silage.—Grow Your Own Protein on the Farm. 116
Some of My Experience. 117
VETERINARY. — Goitre. — Elongated Tooth.—Retained Afterbirth.—Weak Back.—Sick Cow. 117
GARDEN. — Talks on Timely Topics.—Beets for Profit.—Green Beans as Second Crop.—Current Comments.—English Beans. — Spring Onions.—Wintering Onions. — Notes from a Carolina Garden. 118
HORTICULTURAL.—Tree -Enemies. 118
The Cherimoya.—Horticultural Queries.—Weevils on Cherry Trees.—Horticultural Notes. 119
POULTRY.—Poultry House and Greenhouse Combined. — Seasonable Suggestions.—Hens and the Garden.—Gathering Eggs.—Queries Answered. —Hen Lice. — Improving Plymouth Rocks. 119
EDITORIAL.—Growing Fence Posts.—An Agricultural University. — The Man Who Knows it All.—Specialization in Education. 120
CREAM OF THE BULLETINS. 120
COMMERCIAL. 121
HOME CIRCLE.—Prize Offer.—My Summer Forest Temple. — Our Book Table.—Summer Hygiene.—All in a Lifetime.—Part 7. 122
Correspondence. — Youth's Parliament. 123
OUR EXPERIENCE POOL.—Topic No. 586.—What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in Sept.? 124
SHORT CUTS BY P. F. SUBS. — Door Used in Poultry House.—Household Hints.—Cleaning Water Fountain.—Canning Rhubarb.—To Clear Premises of Rats.—Marketing Turnips.—How to Secure a Lawn.—Papering Whitewashed Walls.—Tying Cattle. —Vinegar Pie.—Milk Skimmer.—To Carry Hay on Fork.—Water Trough for Ducks.—For Egg-Eating Dogs.—Sure Cure for Bad Cough.—Canning Tomatoes. — To Teach a Calf to Drink.—Sorting Cherries. — Saving Seed Corn.—To Utilize Flour Sacks. 125
MISTAKES, FAILURES AND SUCCESSES. — Rock Fern. — Settling with the Merchant. — Maule's Phenomenal Pansy.— Macaroni.— Vines on the Farm.—To Save Time When Ironing.—Canning Fruit.—New Way of Keeping Hams.—To Cover Seam at Top of Ruffle.—Uses of Borax.—Too Many Fences. — Manure Your Good Land.—Table Rugs.—Lost Pigs. —Bedding Sweet Potatoes.—A Fruit Canning Experience. — Adulterated Mill Feed. — Turnips and Kale.—Good Canned Grapes.—Uses for Coal Tar. — Household Helps. — For Health. 126
POSTAL CARD CORRESPONDENCE. 128

The boys will be interested by the announcement at the head of the Home Circle this week. The watches which we give for clubs of 15 yearly subscriptions to the P. F. are just the kind for the boys to carry. They have American movements with German silver cases, guaranteed to wear permanently. They are first-class watches in every respect. Now as to raising clubs: We have cut the subscription price of the P. F. in half in these clubs of 15, so that any bright boy can raise a club in his neighborhood with only a few hours' work. Send for sample copies and subscription blanks today, and go right to work. The boys will be surprised to find how easy and pleasant it is to work for the P. F.

COMMERCIAL

Philadelphia, Aug. 15, 1903.

WHEAT.—

No. 2, red, spot and Aug...	81¼ @ 81½
No. 2, Penna. and Del.....	83¼ @ 83½
No. 3, red	76¼ @ 76½

CORN.—

No. 2, spot and Aug........	56½ @ 57
No. 2, yellow, track	61 @ 61½
No. 3	52½ @ 53

OATS.—

No. 2, white clipped	41
No. 2, white natural	40½

LIVE POULTRY.—

Supplies of fowls and chickens were fairly liberal, and the market was weak and lower under a light demand and pressure to sell.

Fowls, hens, per lb........	13
Roosters, per lb.	9
Spring chickens, per lb. ...	12½ @ 14
Spring ducks, per lb.	12 @ 12½
Old ducks, per lb.	11 @ 12

DRESSED POULTRY.—

Receipts of fowls were kept well cleaned up at steady prices, but broiling chickens were quiet and rather weak under liberal supplies.

Fresh killed fowls, choice...	14½
do do do average..	13 @ 14
do do old roosters..	10
do do broilers, nearby	15 @ 18
do do do Western.	15
do do do average.	13 @ 14

BUTTER.—

Receipts, 2,537 tubs, 3,392 boxes. There was a good demand for extra creamery, prices of which advanced ½c. under moderate offerings and stronger primary advices. Some holders accepted 20c. early in the day, but the bulk of sales was at 20½c., and the market closed firm at the latter rate, with supplies well cleaned up. A good deal of the receipts showed seasonable defects of quality, but there was a fair movement in this class of stock, prices of which were well maintained. Extra prints ruled steady, with supplies well cleaned up, but defective goods were plentiful and weak to sell.

West. creamery, 1sts to extra	19 @ 20½
Ladle packed	13 @ 15
Prints, nearby, 1st to extras	20 @ 22
Prints, West. do do	18 @ 21

EGGS.—

Receipts, 3,273 crates. Only a small proportion of the receipts showed choice quality, and there was a good demand for this description, prices of which ruled firm. Heated and otherwise unattractive stock was plentiful and had to be sold at best rates obtainable.

QUOTATIONS—M, mark; L, loss off.

Nearby fresh, ret'bl crates, L	20
Western, choice, free case, L	19 @ 19½
No. West do do L..	19½ @ 20
So. Western do do L..	18 @ 18½
So. choice do do L..	16 @ 16½

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

Receipts, 1,432 boxes. The market developed increased strength owing to stronger country advices. Supplies were liberal and there was a fair movement in desirable goods.

N. Y., f. c.—	
Choice and fancy	10½ @ 10¾
Fair to good	9¾ @ 10¼
State, part skims, prime ...	6 @ 8

GREEN FRUITS.—

Supplies of apples were liberal and largely of unattractive fruit, which had to be sold at low rates, but strictly fine eating fruit was in good demand at outside figures. Watermelons were plentiful and sold fairly at former prices. Canteloupes were in excessive supply and lower. Peaches were firm under light receipts and a good demand. Berries were steady, with supplies well cleaned up.

Blackberries, per qt.	8 @ 10
Peaches, St. Johns, bas. ...	1.15 @ 1.40
Mt. Rose, bas.	1.25 @ 1.75
do per carrier	3.00 @ 3.25
Grapes—	
N. C. Del., 8-lb. bas. car..	1.50
Watermelons, So., car....100.00	@175.00
Canteloupes, 1-3-bbl. bas...	50 @ 1.00
Per crate	75 @ 1.25
Whortleberries, per qt.	5 @ 8

APPLES AND PEARS.—

Apples, per bbl.	75 @ 2.00
Per basket	15 @ 60
Pears, LeConte, Ga., per bbl.	3.00 @ 4.00

POTATOES.—

Supplies of white potatoes were moderate, and the market ruled steady, with a fair demand for desirable stock. Sweets were plentiful and easier under a light demand.

Jersey, per bas.	33
Sweets, N. C., yellow, bbl...	2.50 @ 3.00
do do red do	2.00 @ 2.50
do Va., yellow	2.50 @ 3.00

BEANS AND PEAS.—

Demand was seasonably light, and the market was nominally unchanged. Offerings, though moderate, were ample.

Beans, marrows, H. P., bu..	2.60 @ 2.65
Pea beans, H. P., 1902, bu..	2.00 @ 2.25
Green peas, per bu.........	1.50
Scotch peas, per bu.	1.55

COTTON.—

Cotton was quiet but steady on a basis of 12.75c. per pound for middling uplands cash terms.

Cotton, per cwt.	12.75

FEED.—

Supplies were small and the market ruled steady, though quiet.

Bran, bulk, winter, per ton	17.50 @ 18.00
Bran, sacked, spring	17.50 @ 18.00

HAY AND STRAW.—

Receipts, 180 tons of hay and 17 cars of straw. The better grades of hay were moving out fairly at steady prices, but supplies were mostly of unattractive stock, which was dull and irregular. Straw was quiet and steady, with small supplies.

Timothy, West., No. 1, large	18.50 @ 19.00
do West., No. 2, small	15.00 @ 16.50
Timothy, mixed Western ...	12.00 @ 16.00
Straw, straight rye	16.50 @ 19.00
Oat	8.00 @ 10.00
Wheat	9.00 @ 11.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5½ @ 5¾
Good steers	4⅞ @ 5¼
Medium steers	4⅝ @ 4¾
Common steers	4¼ @ 4½

CALVES.—

Veal calves active for good medium weights.

Extra calves	7 @ 7½
Fair to good............	6 @ 6½
Poor and common	4½ @ 5½
Grassers	3 @ 4

HOGS.—

Hogs active.

Fat hogs, Pa. & Del........	6½ @ 7¼
Fat hogs, Western	7¾ @ 8¼

SHEEP.—

Sheep and lambs steady to a shade firmer.

Sheep, extra	4¼ @ 4¾
Sheep, good	3¾ @ 4¼
Sheep, medium	3 @ 3½
Sheep, common	2 @ 2½
Lambs, spring	4½ @ 6¼

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New York, Aug. 15, 1903.

WHEAT.—

General sentiment was unanimous in calling Government report bullish, yet not more so than expected. The indicated lowering of crop prospects had been discounted and the market was dull and heavy as a result. Estimates as to the indicated yield range from 630,000,000 bushels to 650,000,000 bushels, or a loss of 40,000,000 bushels to 20,000,000 bushels respectively, compared with last year. The report on the spring wheat States is considerably more bearish than other recent estimates, particularly that of the Commercial West, the latter putting the total at 147,000,000 bushels, while the Government figures indicate a yield of 166,000,000 bushels against 175,000,000 bushels indicated last month and 186,000,000 bushels the crop harvested last year. The large selling also had a depressing effect and the market was dull and stupid. Later prices steadied in sympathy with the strength in corn, this being, in fact, about the only bullish feature.

No. 2, red, spot..........	86¾
No. 1, No. Duluth, f. o. b...	93⅝

CORN.—

No. 2	59
No. 2, f. o. b...........	59¼
No. 2, white, f. o. b.......	60
No. 2, yellow, f. o. b......	60

OATS.—

Standard, white	41½
No. 2, white	41½
No. 2, white clipped	42½
No. 2, mixed	39
No. 2, clipped	39½
No. 3, mixed	38½
No. 3, white clipped	42
No. 3, white	41

HAY AND STRAW.—

Timothy, pr., l'ge bales, cwt.	1.12½
do No. 1	1.00 @ 1.05
do No. 2	85 @ 95
Clover, per cwt.	55 @ 70
Straw, long rye, per cwt...	80 @ 90

BUTTER.—

Creamery—	
Firsts to extras.........	17½ @ 19½
State dairy, tubs—	
Firsts	16½ @ 17½
Western Factory—	
Firsts, current make.....	15½ @ 16
West. Imitation Creamery—	
Finest	16 @ 17
Renovated—	
Firsts to extras	16 @ 17
Packing stock—	
No. 1 current make	14
No. 2 and 3 current make.	12 @ 12½

CHEESE.—

State, f. c., small, extra ...	10½
Fair to prime	9½ @ 10¼
Large colored, extra	10
Large white, choice	9¾
State, light skims—	
Choice	8 @ 8¼
Part skims, prime	6 @ 6½
Full skims	1 @ 1½

EGGS.—

QUOTATIONS AT MARK.

Nearby, fancy selected, white	23
Mixed lots	21
State and Pa., f. g., extras..	21
Seconds to firsts	16 @ 18½
Western, fresh gath., extras	19 @ 20
Firsts	18 @ 18½
Seconds	16 @ 17
Thirds	14 @ 15
Inferior	11 @ 13
Dirties, No. 1, candled	13½ @ 14
No. 2	11 @ 13
Checked eggs	8 @ 11
Inferior culls	7 @ 9

LIVE POULTRY.—

Spring chickens, nearby, lb.	12
Southern, per lb.	11
Fowls, per lb.	12½
Roosters, per lb.	8
Turkeys, per lb.	11
Ducks, West., av., pair.....	60 @ 75
So. and So. West., pair...	40 @ 65
Geese, West., av., pair.....	1.12 @ 1.25
So. and So. West., pair...	90 @ 1.00
Live pigeons, old, pair	25
Young, per pair	20

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys, average best, lb...	13 @ 15
Old, per lb.	14 @ 15
Broilers—	
Phila., 4 lbs. and over per pair, per lb.	19 @ 20
Mixed sizes, per lb.	16 @ 18
State and Penna., best, lb..	16
Mixed sizes, per lb.......	12 @ 14
Western, dry picked, 4 lbs and over per pair, lb.	14
Scalded, 4 lbs. and over, lb.	13
Dry picked or scald, mixed	11½ @ 12½
So., scalded, small, per lb..	10 @ 11
Fowls—	
West., scalded, fancy, lb...	13 @ 13½
Dry picked, fancy, per lb.	12½
So. & So. West., d. p., lb.	13
Scalded	13
Old cocks, per lb.	9 @ 9½
Spring Ducks—	
L. I., per lb............	17½
Eastern, per lb.	17½
Jersey, Pa., & Va., per lb.	15 @ 16
Western, per lb.	10 @ 12½
Spring geese, East., per lb..	18
Squabs—	
Prime large white, doz...	2.50
Mixed, per doz.	2.00
Dark, per doz.	1.25 @ 1.50

APPLES AND PEARS.—

Apples—	
Astrachan, per bbl.......	2.00 @ 3.00
Sour Bough, per bbl.....	1.75 @ 2.25
Sweet Bough, bbl.	1.75 @ 2.00
Openhead barrels	75 @ 1.50
Nyack Pippin, per bbl....	2.00 @ 2.50
Dutchess of O., per bbl...	2.25 @ 3.00
Maiden Blush, per bbl...	1.75 @ 2.25
Gravenstein, per bbl. ...	2.50 @ 3.00
Strawberry, per bbl.	1.50 @ 1.75
Pears—	
LeConte, fancy, per bbl...	3.50 @ 4.50
Choice	2.00 @ 3.00
Nearby, common, per bbl.	1.25 @ 1.75
Kieffer, per bbl.	1.50 @ 2.00
Clapp's Favorite, per bbl..	3.50 @ 4.00
Bartlett, Del., ½-bbl. bas.	1.50 @ 2.00
New Jersey, per bbl....	4.00 @ 5.00
Bell, per bbl.	2.00 @ 3.00

GREEN FRUITS.—

Pineapples—	
Fla., Red Span., per crate	2.50 @ 3.25
Smooth Cayenne, per crate	2.00 @ 3.00
Grapes—	
N. C., carrier, Delaware..	1.50 @ 2.00
N. C., carrier, Niagara...	1.00 @ 1.25
Champion, per case	1.00 @ 1.25
Muskmelons—	
Jersey, bu. box	75 @ 1.00
Maryland, per crate	75 @ 1.75
Baltimore, crate	1.25 @ 2.00
Baltimore, basket	50 @ 1.00
Norfolk, crate	50 @ 80
Western, fancy, per crate.	3.00 @ 4.00
Watermelons, per 100	15.00 @ 25.00
Per car	125.00 @ 200.00
Peaches—	
Maryland & Del., basket..	1.00 @ 1.50
Average, per carrier	2.00 @ 2.25
Jersey, basket	75 @ 1.25
Fancy, carrier	2.50 @ 3.00
Plums—	
Burbank, per carrier	75 @ 1.25
8-lb. basket	25 @ 40
Reine Claude, kegs	75 @ 2.00
Reine Claude, carrier	1.00 @ 1.25
Copper, 8-lb. basket	30 @ 35
Egg, 8-lb. basket	25 @ 30
Blackberries, Wilson, per qt.	8 @ 12
Huckleberries, l'g blue, qt..	9 @ 11
Small, per qt	6 @ 8
Grape fruit, Cal., box......	1.75 @ 2.25

VEGETABLES.—

Cabbage, L. I., per 100 heads	5.50 @ 7.00
Baltimore, per crate or bbl	1.00 @ 1.25
Cucumbers, Balt., per bas...	75 @ 1.00
Jersey, bu. box..........	1.00 @ 1.25
Jersey, per bbl.	3.00 @ 3.50
Balt., per bbl.	3.25 @ 3.75
Cucumber pickles, per 1,000	3.50 @ 4.50
Cauliflower, per bbl.	1.50 @ 2.00
Celery, fancy, per doz.	40 @ 50
Good to choice, per doz..	15 @ 35
Washed, per doz.........	50 @ 65
Eggplants, Jersey, per bbl..	1.95 @ 2.00
Per bu. box	50 @ 75
Per ½-bbl. basket	80 @ 1.00
Green corn, per 100	1.00 @ 1.75
Lettuce, Boston, per case...	1.25 @ 1.75
Western N. Y., per case..	1.25 @ 1.50
Lima beans, potato, per bu.	2.50 @ 3.00
Jersey, flat, per bu.	2.00 @ 2.50
Bush limas, per bu.	1.00 @ 1.50
Peas, West. N. Y., basket...	1.50 @ 1.75
Per bag	1.25 @ 1.50
Peppers, per box	65 @ 80
Per barrel	2.00 @ 2.25
String beans—	
West, N.Y., bu. bas., green	1.25 @ 1.62
Bu. basket, wax.........	1.00 @ 1.25
Squash, So., wht., bbl. crate	1.00 @ 1.50
Marrow, bbl. crate.......	65 @ 75
Yellow crookneck, bbl. crt.	75 @ 1.00
Tomatoes—	
Best Jersey, per box.....	75 @ 85
Acme, per box	1.25
Choice Jersey, per box ...	50 @ 65
Southern, per carrier	50 @ 1.00
Baltimore, crate, Acme..	90 @ 1.00
Russia turnips, bbl.	1.50 @ 1.75
Onions—, N. J., yellow, bas.	90 @ 1.00
White, basket	1.00 @ 1.25
Kentucky, bbl.	2.00 @ 2.25
Bags	90 @ 1.00
Denia, per bag	1.12 @ 1.25
Long Island, per bbl.	2.00 @ 2.25
Virginia, white, per bbl...	1.75 @ 2.00
Yellow, per bbl.	1.75 @ 2.00
Orange county, red, bag..	1.75 @ 2.15
Connecticut, per bbl.	2.00 @ 2.25

POTATOES.—

Long Island, prime, per bbl.	2.00 @ 2.12
Jer. & Md., prime, per bbl..	2.00 @ 2.12
Per bag	1.87 @ 2.00
Southern, fair to good	1.50 @ 2.00
Sweets, So., yellow, per bbl.	2.50 @ 3.00
Red, per bbl.	1.75 @ 2.00
Yams, So., white and yel., bbl	2.25 @ 2.75

◆

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

For the P. F. Boys

Here is an inducement for the boys of the P. F. family to make up clubs of trial subscriptions for the P. F. at 10 cents each. The trial subscriptions run to Jan. 1, 1904. We will give every boy who sends us a club of 50 trial subscriptions to the P. F. and $5 to pay for the same, a handsome

AMERICAN WATCH

It is just the right size for the boys, has an American movement with a jewel escapement, handsome porcelain dial, with stem wind and stem set. Has a solid German silver case guaranteed to wear permanently. The watch is guaranteed and is thoroughly first class in every respect.

We will send 50 free sample copies and subscription blanks to every boy who will send us name and address and say they will try to raise a club. Send club direct to

THE PRACTICAL FARMER,
Philadelphia.

Prize Offer.

One dollar each for the best five manuscripts that reach our desk before October 22. None considered unless sent direct to Mrs. V. C. Melville, Sun Prairie, Wis.

My Summer Forest Temple.

C. F. BARBER.

Father, in this temple grand,
Beautified today by Thee—
Fashioned by Thy loving hand,
Builded by Thy wise decree,
Let me worship, let me live,
Let my heart its offerings give.

Sanctified by Thee 'tis pure;
Decorated by Thy skill—
Blest by Thee, may it endure
While the ripples on the rill,
Freed from Winter's icy chain,
Sing and dance thro' wood and plain.

Flowers, incense waft aloft,
Silken leaves in shadows play—
Rivulets in murmurs soft
Praise Thee every night and day;
All things seem, if Thou approve,
Valuable with joy and love.

Mosses soft, in fadeless green,
Offer me a cushioned seat:
Even little lichens seem
"Welcome, welcome," to repeat.
While these grand companion trees
Greetings give in every breeze.

Whispering leaves in kindly words
Tell of quietude and rest—
Tell me here that naught disturbs
Nature's watchful, loving quest;
Waving branches bid me come
Welcome to my forest home.

Here while happy birds are singing
Songs of loving praise to Thee,
May these arches grand be ringing
With a song of praise from me;
Here let everything with breath
Sing the songs of love and faith.

Auburn, N. Y.

Our Book Table.

MRS. H. H. D.

It is indeed a difficult matter to choose books for all ages, especially for the very young minds. Such a great variety is presented it is hard to decide which of the many is best suited for the individual. There are many modern authors of books in whose purity of tone and high moral purpose utmost confidence may be placed. Of all influences brought to bear on the youth's training few are stronger than that of books. Hence it is very important to make good selections for our families. How much better to store our minds with useful knowledge gained from good books than to spend our lifetime reading light literature, or merely indulging in the gossip of our surrounding neighborhood?

We have an invitation to live in good society, but what shall be our attitude when we open this priceless treasure? Shall the priceless truths be instantly gathered? No, we must have a teachable mind, and labor as constantly, patiently and earnestly for these treasures of thought as miners in digging ore. Great men have not given their best thoughts on the surface, but expect our minds to be strengthened by the search. If we have but little time, and access to but few books, let us spend this time rightly and with some aim in view. Aimless reading is only a waste of time. Some of our strongest minds read their books as if they were never to see them the second time, and thus make them their own, a possession for life.

It was said of Daniel Webster, that he would read and re-read his favorite books with passionate fondness. Our attention must be fixed and held upon the book we are reading. Every word should be studied with care, its connected and primary meaning found. Our language is peculiarly adapted to the study of words, as it is derived from so many other languages. Much can be obtained in this way. The secret of attention is the interest one takes in reading. The one who carries a book with him that he may read all leisure moments, needs no urging to read attentively. The old adage, "We are known by the company we keep," holds good in reading; we will be judged by the books we read. They will either degrade or elevate us. In youth it is essential that proper ones be chosen, as the young mind is easily bent. The influence of them begins in childhood. Children have a love for books and the thoughts gathered from them will have a lasting effect. The child that is permitted to read a great many works of travel, stories of sailors, etc., will often be influenced in after life to leave home that he may lead a roaming life. Men's principles and opinions are greatly influenced by reading. The writings of infidels should not be read by the young, as their minds are not capable of comprehending the arguments. Older persons, if they keep before them the fact that the writings contain false doctrines, may read these, but it is best not to feed our minds on unwholesome food when that which is wholesome is abundant. It is wise to remember that our minds will develop best only when fed best.

Many writers picture to us lovely scenes, heroic and kind actions, useful lives, but there is an undercurrent of poison which may weaken our faith in the nobleness of man and goodness of God. The question of the wisdom of reading fiction is often agitated. In this line of reading our imagination is developed, and as this is a God-given faculty we should improve it. If we read aright, the influence of the novel will not be degrading. The following rules, which will no doubt prove helpful, were given by Robert Southey:

"Would you know whether the tendency of a book is good or evil, examine in what state of mind you lay it down. Has it induced you to suspect that that which you have been accustomed to think unlawful, may, after all, be innocent, and that may be harmless which you hitherto have been taught to think dangerous? Has it tended to make you dissatisfied and impatient under the control of others; and disposed you to relax in that self-government without which both the laws of God and man tell us there can be no virtue, and consequently no happiness? Has it attempted to abate your admiration and reverence for what is good and to diminish in you the love of your country and fellow creatures? If so shun it."

Let us consider good books among our best friends and strive to spend all the time possible with them. And let us shun impure books as we would impure people. We must have good books in our homes that our children may learn to love them from choldhood.

McConnell, Ill.

Summer Hygiene.

Summer is the season of health and recuperation for those who properly regulate their mode of living. For those who do not it is a season of discomfort.

Pure, healthful, light food that will not stimulate heat production while it properly nourishes and strengthens the body and brain is the great essential.

It is conceded that the best of all foods for summer diet are the quickly made flour-foods—hot biscuit, rolls, puddings, cakes, muffins, etc., such as are made with baking powder. A most excellent household bread is also made with baking powder instead of yeast. These, properly made, are light, sweet, fine flavored, easily digested, nutritious and wholesome. Yeast bread should be avoided wherever possible in summer, as the yeast germ is almost certain in hot weather to ferment in the stomach and cause trouble. The Royal Baking Powder foods are unfermented, and may be eaten in their most delicious state, viz., fresh and hot without fear of unpleasant results.

Alum baking powders should be avoided at all times. They make the food less digestible. When the system is relaxed by summer heat their danger is heightened.

The flour-foods made with Royal Baking Powder are the acme of perfection for summer diet. No decomposition takes place in their dough, the nutritive qualities of the flour are preserved and digestion is aided, which is not the case with sour-yeast bread or cakes.

All in a Lifetime.—Part 7.

VELMA CALDWELL MELVILLE.

"Sister Dewild, this is my wife, Pearl."

Dr. Glen had apprised his wife of the run-down condition of The Place, therefore she was agreeably surprised that things looked as well as they did. The room assigned them was evidently the guest chamber, a long, low apartment with smoky ceiling; a wall paper that had once been white and gilt, but which now sympathized with the ceiling, a floor white from recent scrubbing, with here and there a worn rug that hinted at past grandeur. The bedstead was a high post, with broken canopy of some dark blue stuff from which depended an occasional golden tassel. The bed itself was covered with a blue and white counterpane that fell nearly to the floor. The pillows looked like small white puff balls. An old-fashioned bureau, with oval glass, looked very lonely half way down one side of the room. There were, besides, some chairs, footstools, a wash-stand and wardrobe. This last stood black and grim in the shadowiest corner. But the dinginess and sombreness of it all was in a measure relieved by the artistic arrangement of ferns and flowers everywhere, and the airy, freshly laundered curtains at the windows. Very ceremoniously Aunt Dawn had "shown the young missis up," and then returned for warm water, a cup of tea and a sandwich. Further she announced, with rolling orbs and a flourish resurrected from other days, that "dinnah would be served 'most presently."

Left alone, Pearl closed and bolted the door and then flinging herself by a chair, hid her face in its cushion. Never had she felt so utterly alone and forsaken in her life. O, if she could only see Aunt Ruth, or lie down in the little white bed at home! This great desolate, gruesome house, these overgrown and deserted fields—how it all chilled her! Vaguely parts of Uncle Tom's Cabin came back to her, and she almost fancied she heard the cries that had probably once resounded over this very plantation. And that woman, Dewild Langstroth—she had smiled graciously, welcomed her in her stately Southern fashion, and her hand clasp had been warm, but she felt awed or afraid or something, she knew not what. And as to her husband—well, of course, she loved him; she always assured herself that she did. It would be a terrible sin if she did not; but the knowledge that he was in the house and would presently come up for her, afforded less sense of comfort than she could have wished.

She wanted—but a muffled step outside aroused her and by the time a low knock sounded on her door she had thrown off her hat and cape and was unpinning her hair.

It was the laundress, arrayed—only Patty Pearl did not know it—in a fetching new outfit prepared especially for the occasion. Couldn't she do something for the young missus; brush her hair, dress her feet or unpack her valise? Kindly the doctor's wife refused her services, assuring her she was used to doing for herself and enjoyed it.

When the girl was gone, her mood underwent one of those sudden changes characteristic of the little Patty Pearl of old, and she made as becoming a toilet as possible out of her valise wardrobe. The trunk would have to be gone after the next day.

But very lovely she looked to her husband when he came up a little later, and the dreamy eyes of Dewild Langstroth hardly left her face during the "dinnah" that was such a pathetic mingling of old times and new. Uncle Rasmus, "much arrayed," stood behind his mistress' chair, taking orders with the air of a court favorite, bowing, grinning and scraping as he had done many years before when The Place was in its prime.

There seemed plenty to eat, but Patty Pearl could not know that almost everything was purchased with money sent on ahead by her husband. She was very bright and winsome during the meal, and before the day was done the three colored people were ready to fall down and worship her. When pressed for an opinion by Aunt Dawn, Miss Langstroth admitted that she seemed a very proper person, considering she was from the North.

Two weeks passed quietly away. The Doctor devoted himself to his wife and then fondly bade her adieu and returned to his practice. It was his intention to have her as long as she was content to stay, the change seeming beneficial. The first night alone in the dreary guest chamber proved almost too much for Patty Pearl's nerves. The wind moaned and whistled; the limbs of the trees creaked against the eaves or tapped on the window panes. A dozen times she was sure she heard or felt someone in the room. All the stories of haunted houses that she had ever heard came trooping into mind. She was wide awake. O, it was dreadful to think of all of them up in the dear, familiar home places. She was sure she was thinking chiefly of her husband and Aunt Ruth. Each time Jeff Greely invaded her mind she put him resolutely out—or tried to. Toward morning she fell into a troubled slumber, but arose pale and dispirited. Her manner at breakfast was so unusual that Miss Langstroth noted it at once.

"I guess my brother made a mistake in leaving you," she said crisply. "You are homesick already."

"No, indeed," protested the girl, "only I did not sleep well. I think I am grown cowardly since my sickness. I was really afraid last night."

Her companion's lip curled the fraction of a bit, but she said:

"Better have Aunt Dawn move her cot in and sleep there."

"O, no, I could not think of disturbing her or anyone. Maybe I'll get over it."

"It won't disturb her in the least," said Miss Langstroth decidedly. "Time was when there was a nigger on a rug outside or inside of every door. O, those were the times to live," she added with great fervor, letting her gaze wander out of the small-paned windows and over the immature cotton patch, with its tangled fields beyond.

"You can't imagine, seeing things as they are now, what life used to be here before the War. This house was in good repair and the lawns and gardens were lovely. We had vast fields of cotton and corn and over one hundred niggers." (Miss Langstroth was apt to allow slight lapses in her language when this, to her, subject of subjects was broached.)

As Uncle Rasmus sometimes confided to Aunt Dawn: "When missis gets goin' on the nigger business and old times question, she's jest like a top that's wound up 'nd must run itself down."

And then she was a trifle given to moods, and one could never be sure at night what one would claim her in the morning. Perhaps she was in an unusually bad one now, for her brother, on leaving, had said:

"My wife will pay you four dollars each Saturday night for board."

"I am not taking boarders, Dr. Glen," she had replied loftily, but he had paid no heed. He had no idea of placing a sum of money in her hands and letting her spend much or little of it for his wife's comfort. As he said to himself: "I know you, Dewild Langstroth, and I've not forgotten when you sent me, a timid lad of twelve, out into the world alone and penniless. I prayed to stay then, promising to work my fingers to the bone for you; but you wanted no 'offspring of a despised Yankee, and now you needn't have any more of a Yankee's money than is justly your due."

He mentioned none of this to Pearl, however, only said he would send her money to pay her board, and do whatever else she liked with, only—she need not give much, or any for that matter, to Dewild. And then he had laughed and said he was growing stingy with thinking of the little home he was going to build somewhere in the near future.

That same morning Miss Dewild showed Pearl through the tumble-down old plantation mansion. It was now all leaky and rat-infested, save the few rooms in the east wing where the family lived, and these were bad enough, Pearl thought.

"This was the dancing hall," her guide explained. "I can just shut my eyes and see the merry companies that used to gather here. We had large house parties for weeks at a time, guests chiefly from St. Louis, but some of them from New Orleans. There were a few fine old families hereabout and we were never alone at any time. My father was a genuine Southern aristocrat—a perfect gentleman; and my mother was his equal only in spirit and pride. She was very amiable and affectionate, too affectionate for her own good, else she had never married the father of Harry Glen. He was in no sense her equal. Of course she never loved him, and marriage without love is a crime."

Patty Pearl shrank as if from a blow, but the voice that had lost all its softness and melody went on:

"It was a mad infatuation that ruined all our lives. I never forgave her—a Langstroth cannot forgive a wrong. He had nothing, this man Glen, but his trade. Think of my father's wife marrying a man with a trade. When he died she said her boy should have her share in this estate, but by that time it was almost worthless. Had it been otherwise, though, I would have died before one cent of my father's money, or one dollar of his property, should go toward the support of the offspring of a Northerner, least of all a Glen."

By this time the weird surroundings and bitter language of the woman had brought Pearl to the verge of hysterics, but she only murmured: "I am sick and want to lie out in the hammock."

The hammock, at least, was hers, for the doctor had bought it, and hung it in a sunny, wind-sheltered nook. For the rest of the day she scarcely saw her hostess save at meal times, when conversation was most commonplace. Sure enough, Aunt Dawn's couch occupied one corner of her room when she came to retire, and in her heart she was glad of it. She was in bed when the old negress, coming up softly, whispered:

Yer jest homesick, ain't yer, honey? The young marsa hadn't orter lef' ye here, knowen the missis as he does. She don't mean no harm, only she's bitter, dreffui bitter, ever sence the War, 'nd her paw's death. Then her lover, him ez she was ter marry, got shot, 'nd all tergether she got bitter. It ain't right, no one shouldn't git that way. Keep cheerful is Aunt Dawn's advice. I've had nuf ter make me bitter, chile, plenty nuf, but I jest says 'taint no use, Dawn, ye haint got ter live yer life in this world but once; better be shiny.' It's all in yer lifetime anyway, honey."

At this the doctor's wife sat up very straight, her beautiful face eloquent in its earnestness.

"Don't every wife love her husband, Aunt Dawn? Aint it just natural?"

To another the question might have seemed irrelevant, but not to the simple negro woman who believed in love as she believed in God.

(To be continued.)

Correspondence.

Mary L. Garner, Max, Ind., writes: Dear Mrs. Melville: The enclosed "flower article" fulfills my obligation to you, and I hope that in a very small measure I have helped the H. C. I would like to ask if the trumpet vine and honeysuckle are flourishing. We are, for the children's sake, going to leave the old home farm, to be able to give them the advantage of high school, but we must have the P. F., and will not give up the flowers. And while the change of location is decided upon only after mature deliberation, the farm is still our own and will be near enough to visit often to keep away the "heimweh." Perhaps a picture of "Lynndale" would be acceptable to you. With best wishes for the P. F. and that you may be editor of the H. C. "for a hundred years."

[We certainly would appreciate a picture of Lynndale, also its owner. We cannot help feeling sorry that another farm home is passing into the hands of strangers. But it is all for the children—all for the children. The honeysuckle winter-killed, much to our grief, but the trumpet vine is alive, though not growing as rapidly as it ought. Can you not continue with us just the same? We would like two or three more floral correspondents during the coming year.—Ed.]

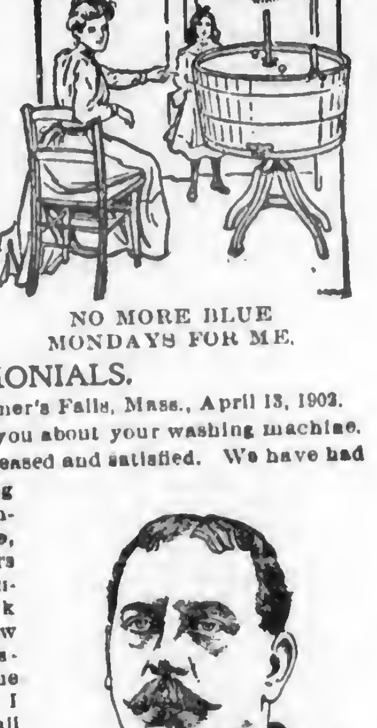
Youth's Parliament.

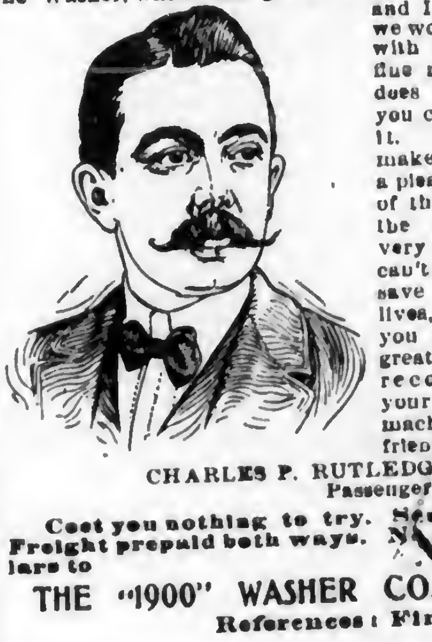
Alma Weller, Owensboro, Ky., writes: Dear Mrs. Melville: As I see others writing I thought I would write a little, too. Papa takes the P. F. and we like it very much. I have one sister older than myself; her name is Nina. I have one sister and brother younger. Their names are Hathway and Hayward. I am eight years old. In answer to your question I should think Zebedee himself was the father of his children. Nina thinks your story, "All in a Lifetime," is so good. I have not read it. I think it is so nice of you to allow us children a space in your paper. Well, if this escapes the waste basket I may write again some other time.

Etta J. Corn, Keystone, Mo., writes: So much has happened since my former article about our cats was written, that it will not be complete without the following: About the time we rented our farm and changed our location, a distance of ten miles, we put the five cats in a box and took them along. Prince's mother left the night after we moved and we never heard of her again. The rest soon adapted themselves to circumstances and seemed to enjoy their new home, but in about three weeks they all became sick with a kind of distemper, and poor Duke and Dandy died. Also another cat that was at the place when we moved. Tiger, the big gray cat we petted after Prince died, and the twin's mother got well. One night Tiger disappeared and we supposed something had happened to him. We had but one cat left, and as that was not enough to keep the premises free from rats and mice, I went over to my sister's and she gave me a cat nearly all white, and three little black kittens. We invariably spoke of them as "the three little niggers," but alas! this appellation was soon changed to "the three little orphans," for when they were five weeks old the mother cat became afflicted with the distemper and died. We taught the kittens to drink milk from a teaspoon, and for a few days they got along nicely, but suppose they had contracted the disease from their mother, and soon they, too, were all dead. After Tiger had been gone two weeks my sister and I went back to our place for some tea roses that had been under cover for winter. The people said there was a strange cat there and when we went out into the yard to take up the roses and were talking pretty loud a cat began to mew under the house. I remarked to my sister, "That sounds like Tiger." We called, and sure enough, he crawled out, so delighted to see us he could scarcely express his joy. We put him in a sack and my sister carried him home on her lap. We kept him in the house at night and watched him during the day, but he did not seem satisfied. He liked us, but liked his old home better, and one night he pushed open the cellar door and climbed out at the window where the screen was broken. We heard he was back at the place, but thought it was no use to bring him here again. After he had been there ten days, I guess he decided he liked us best after all, and one morning he came back of his own accord, nearly famished for food and water, so glad to see us and so tired he lay around all day hardly able to move. He seems perfectly satisfied to stay here now. He comes and goes at will without showing any inclination to go back to the old home. It is needless to say we give Tiger credit for being an unusually intelligent cat, and he receives a great deal of attention from the family. He is a very large, stately looking fellow, and some of these days I am going to have a kodak and take his picture. Thus endeth the story of our cats, and I think Mrs. Melville will have to confess our experience has been a trifle more varied than hers.

Jennie Dolbeck, Hague, N. Y., writes: Dear Mrs. Melville: Here comes a little girl from New York. I am eleven years old and live a mile from Lake George, on a farm that we have named the Mineral Spring Farm. I think it is very nice to have the Y. P. in the P. F. I like to read the letters from the little girls in other States, and would like to correspond with them. I like to go to school very much and like to study.

Kate Dorsey, Belwood, N. C., writes: Dear Mrs. Melville: As I have never written a letter to the Y. P., I thought it would be of interest to myself, if not to anyone else. I think the cousins ought to take more interest in writing. I am a farmer's daughter, and live near the little town of Belwood. This is a beautiful country. If you Northern cousins don't believe it come down and see. Our village is noted for its good churches, good schools, and, best of all, for its industrious people. We are anticipating a good school at Belwood Institute this year. Prof. W. O. Rudasill is the principal. What are you cousins doing these hot days for amusement? It is very pleasant here in Western North Carolina. How many of you like to read? I do. Have any of you boys and girls read the "Wide, Wide World," also the "Hornet's Nest?" I think they are both good books. All young men should read the "Hornet's Nest." I suppose you Parliamenters are having great fun going to picnics. A crowd of us young people are going off on a mountain trip this summer.





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A FAIR AND SQUARE PROPOSITION.

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The 1900 Ball-Bearing Washer is unquestionably the greatest labor-saving machine ever invented for family use. **Entirely new principle.** It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery, the easiest running washer on the market. No strength required; a child can operate it.

No more stooping, rubbing, boiling of clothes. Hot water and soap all that is needed. It will wash **large quantities of clothes** (no matter how so led) **perfectly clean in six minutes.** Impossible to injure the most delicate fabrics. Saving in wear and tear of clothes, to say nothing of the saving in soap and materials, pays for the machine in a short time. Don't be prejudiced. This is entirely different from and far superior to, any other washing machine ever made.

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Div. 214 B. of L. E.
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CHARLES P. RUTLEDGE,
Passenger Conductor.

Turner's Falls, Mass., April 13, 1902.

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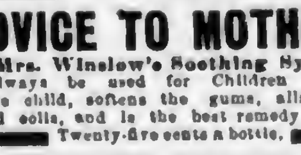

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Topic No. 588, Sept. 5.—*Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.*

Topic No. 589, Sept. 12.—*Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?*

Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 586. — What Have You Found to be the Best Winter Cover Crop to Follow Corn Cut in Sept.

F. C. Ramsdell, R 1, Denton, Md.—In this section (Eastern Shore of Maryland) we find nothing for a winter cover that equals the crimson clover. We use it on corn land that we are not going to seed in wheat, or, in fact, on all land that will be left without a winter cover. In this section we sow any time from the 20th of July until the first, or even the middle of October. Of course, we prefer the earlier seeding, as it gives the clover a better chance to cover the ground, which it will do completely with anything like a seasonable fall. We are now sowing it, July 27th, in our tomatoes, and this, with a good fall, will make us good pasture for calves and young stock until the first or even the last of December. We also sow it in our late corn at the last working with the certainty of almost always having a good stand. A year ago this fall I sowed it in an acre of tomatoes, and adjoining it were two acres of corn in which we sowed the clover seed at the last working of the corn, which was about the 10th or 15th of August. This clover made such a growth that after we got the corn husked and the fodder hauled off the ground we pastured it with three head of young stock until after Christmas. From these three acres we cut and fed in the green state five head of work horses for over a month, and then cut six big loads of hay. The hay, of course, we cut before it was fully in head, as it is not good for horses after the seed begins to form. A second crop came up where we cut it in the green state. This we cut for seed and the balance of the piece where the second crop came up and headed out we plowed under for corn, together with the piece we cut the seed from, and we now have late corn growing, which bids fair for a good crop, and we shall again sow it in crimson clover either to cut for seed or hay. Some would no doubt say you are cropping that piece of ground pretty hard, but we believe this piece of ground will be richer in vegetable matter when we take the corn off this fall than it was a year ago when we sowed the clover in it, for we turned under a heavy crop of vegetable matter when we plowed it for the corn. We are satisfied that in this section, or wherever it can be grown successfully, there is nothing equal to it as a winter cover crop, either sown at the last working of corn or tomatoes. Later I may give my experience in growing it as a money crop for seed in this section, which is termed the home of crimson clover.

J. E. Andrews, Starkesboro, Vt.—I solve the winter cover question by sowing clover and timothy seed at last working of the corn, which is, with me, about the first of July. The last two seasons have been especially favorable to stocking at that time, and the frequent working of the corn makes a fine seed bed. If the ground is moist, or the season wet, the seed may be sown after the last working, but on light soil and a dry season it will be well to run the weeder or a fine-toothed cultivator after the seed is sown. If a stock was not desired probably rape is the best for this Northern country. I tried it in a small way last year. Crimson clover is not a success here.

Ancil Lowry, Mosgrove, Pa. — This topic should have a good deal of consideration in any locality where spring oats follow corn. Yet it does not get it to any great extent. It certainly is very poor farming to let corn stubble lie bare from September until the following April to leach and drift away during winter. I have quite often noticed during winter, when snow had drifted off some, corn fields that were left bare and no winter cover crop, that the very finest of the soil had also drifted along into the fence rows or some place where it would be a very great loss. All of it can be stopped by a good cover crop, and this I have found to be the crimson clover, sown here at last working of corn in July. We have had splendid stands of it on our corn stubble to plow under for the past three seasons, and would not discard it for any other crop for this purpose.

J. F. Beiler, Ronks, Pa.—I have tried different ways for a cover crop over winter for land where corn was raised. I have often failed to get a cover. Crimson clover I like best if it can be made to grow. Rye is good but it is most too late to wait until corn is removed; to sow before it is cut is not convenient, especially if corn is down. To sow rye as early as we do crimson clover it often dies before winter is here. A coat of manure is often all it gets, which is better than nothing and perhaps all it needs, especially if it stays frozen until spring.

Jno. F. Zook, Belleville, Pa.—I think rye is a good winter cover. Last fall I cut some corn in September and sowed it in rye. Through the winter we manured it. It grew nicely. Pastured it some in the spring and plowed it again for corn. I expect to sow some corn in rye again this fall. It is good for the land; also keeps it from washing so much in winter and spring.

J. Newton Glover, Vicksburg, Pa.—I have sown rye, crimson clover, Black cow peas and Dwarf Essex rape just ahead of the cultivator at the last working in June, to get a winter cover crop for my corn field. The year I sowed the rye it was very dry, so failed to get a good stand, and can hardly tell what it might do when one has a good stand; but on a quarter acre of potato ground a year before had some pasture in the fall and a good sod to plow for oats in the spring. The crimson clover did not live through the winter one year, and a second year I failed to get a catch on account of dry weather. Black cow peas made a fair growth during the cool summer; failed to ripen any seed and were killed by the first frost shortly after the corn was cut. Dwarf Essex rape made a good growth and a cover for the winter, as some of the plants remained alive during the winter, being covered with snow. The rape also furnished some pasture for cattle in the fall. Have repeated my experiments with both peas and rape again this season, so will know more of these two as cover crops a year later.

Frank Yeager, Sprankle Mills, Pa. — We find that rye and hairy vetch (Vicia Villosa) make a very good winter cover to follow corn cut in September. Work ground up fine, sow one bushel rye and two pecks of vetch per acre; 200 to 300 pounds per acre of any complete fertilizer will aid the growth. Cut in April and May for the cows.

D. James, Langstaff, Ont.—Growing corn only for ensilage or feeding purposes, I plant it 42 inches apart in the rows and keep it well cultivated until it is 5 or 6 feet in height. At spare times we go over with the hoe to catch any weeds that have been missed. The corn is generally ready for the silo from the 10th to 15th of September. After taken off the ground is raked by horse rake, when leaves, cobs and scattered stalks are drawn off; then the ground is cultivated lengthwise with rows of corn until a nice seed bed is formed. I use a spring-tooth cultivator; a couple of times has been sufficient on my land. Sow 1½ to 1¾ bushels per acre of fall wheat. Harrow lengthwise with rows, as the stubble from a corn harvester is a good protection for holding snow in the winter. Have rolled the stubble in the spring and have failed doing so; see no benefit from rolling. In the spring, seed the wheat with eight pounds of red clover seed per acre, and your land will not suffer much in growing corn. Last season I had 15 acres of such corn land in wheat, which yielded 26 bushels per acre; this season I cut from the same field, very early for this vicinity, about one and a half tons per acre, as I wished to plow in the second crop, which is now done (last week in July). It is claimed for this method for this particular field that the land is richer than before the corn was grown, and there were from 11 to 13 tons of corn per acre. Do not always plow the second crop of clover under; generally pasture the whole season; either is good.

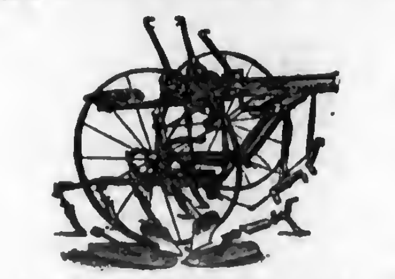
J. B. Johnston, New Wilmington, Pa.—For winter cover crop in corn ground I have used rye and crimson clover with a decided preference for the latter. The rotation usually followed here is corn, oats, wheat, red clover. We sow the crimson clover among the corn about the middle of July, and go through each row once with one horse cultivator and short singletree. I think this is much better than sowing after the last cultivation, as the seed is covered and plants make good root growth but not much top until the corn is cut; then it grows right along until hard freezing comes. Much of it freezes out in the winter; but I believe that the amount of vegetable matter and nitrogen we get into the soil in this way cannot be gotten there so cheaply in any other way. Where corn or potatoes follow corn, the benefit is still more marked, as we can then let the clover grow until it is in full bloom before plowing it down. Some growers claim that they can raise a full crop of corn annually for any number of years by plowing down crimson clover. However this may be, I think that wherever it will make a good fall growth it should be sowed in the corn.

SUMMARY.

We are glad to note that most of our friends are realizing the difference between a crop that merely covers the soil and checks the loss of soluble nitrates and a crop that gathers additional nitrogen from the air and leaves it in the form of organic nitrogen in the soil. Any cover crop, even rye, is better than bare ground, but while we are getting a cover crop it is of importance to get the best. In a large part of the Middle States and in the South there is no doubt that crimson clover fills the bill well, and if sown with rye we still will be sure of the cover even if the clover fails. In the colder sections the hairy vetch will be found very valuable, as it is not only a nitrogen-gatherer but is a very hardy plant. Its sprawling growth makes it necessary to sow wheat or rye with it to hold it up. But where the cover crop after corn is only for the purpose of a winter cover to be plowed under when oats are to be sown this sprawling habit is of little consequence. The great objection to the vetch at present is the high price of the seed, for one cannot afford to use $5 worth of seed per acre for a cover crop. The advice given in the Delaware bulletin which we notice this week in the Cream of the Bulletins, to sow a patch of vetch for seed, is good advice. It seeds heavily and a small patch will give seed enough for a considerable area the following season, and enough will be left on the land to re-seed it. In the South cow peas sown at last working of the corn and crimson clover sown among these in September or October, when the leaves are falling, will make the finest of all winter cover crops and will furnish a great amount of plant food when plowed under in the spring for the cotton crop. I have a piece of peas now growing which I propose to treat in this way, and expect to get a good stand of the clover. Further North the clover seed may be sown among the corn at last working while the land is fresh, or vetch can be sown. Where the winters are not too severe Essex rape sown in early September will make a good soil cover and fine winter feed for sheep. This plant ought to stand the winter as far North as Southeastern Pennsylvania. But whatever the crop, it is the part of wisdom for the farmer to have some green crop on his land in winter, for in a large part of the country the soil loses fertility as fast in the winter rains as in the summer cropping.

◆

Successful Riding Cultivators.— The only way to find out whether a farm implement will work or not is to try it in the field. This is the test that has been applied during many years to the line of Iron Age Riding Cultivators, and they have come out winners in the trial. To meet various conditions they are made with pivot wheels, with fixed wheels or with a combination of the two.



Especially desirable for cultivating crops on hillsides or for work among crooked rows is the Iron Age Pivot Wheel Cultivator, a movement of the foot carrying the whole implement, with its gangs of teeth, to right or left as desired. The cut shows one of the popular Iron Age Riding Cultivators having pivot wheels; spring pressure lock-down, to prevent the gangs rising and slipping over hard places; and lever gang adjuster, which gives the operator immediate control over the width of his gangs. Among the attachments for these cultivators are the fallow tooth attachment, for work in orchards and for preparing land in the fall for sowing grain; the plows for turning earth away from the plant, hilling up, and marking rows; spring hoes, adjustable in every way; and disks, for working crops and for exterminating wire grass, coffee, etc. Prices and full descriptions can be obtained from the Bateman Mfg. Co., Box 101, Grenloch, N. J. Mention the P. F.

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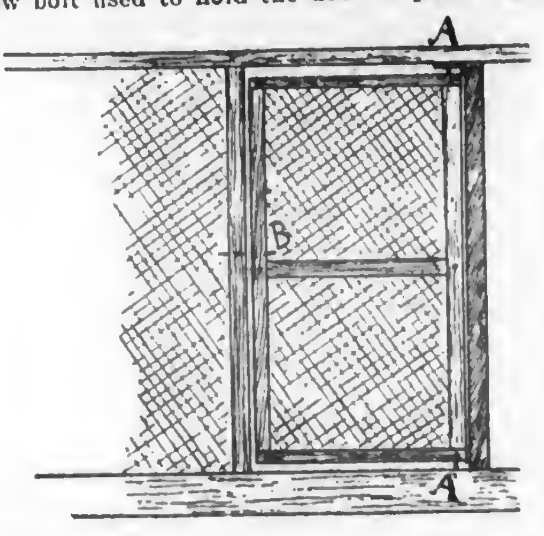
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Door Used in Poultry House. — It proves very satisfactory and can be made at little expense. A A represent two pins, which should be driven in the ends of the door and extend into the boards at top and bottom. With these for a hinge the door can be swung either way. B is an ordinary window bolt used to hold the door in place when closed. Drill a hole in a plate the size of the window bolt and fasten it on the casing for the bolt to catch in. The hole should be twice as long as wide, so as to allow the bolt to slip in should the door settle or raise.



Tula, N. Y. ERNEST SMITH.

Household Hints. — My Singer sewing machine is thirty years old. When it balks up, take the head off, dip a camel's hair brush in kerosene oil, brush thoroughly until dirt is all washed out, oil up with good oil and start machine. Vinegar, linseed oil and turpentine, equal parts, make a good furniture polish. Fence stock in. It saves time and temper and keeps good neighbors. Baking powder cans with holes punched out with 6-penny wire nail, make good dredge boxes. Fat trimmings from beef are best to fry fish in. Mixed with lard for doughnuts is better than all lard. Soak cuts, sprains and bruises in water as hot as can be borne. Bake rhubarb without water; add one-half teaspoonful fine salt to each quart. When cold sweeten to taste. Eat fruit and salads; shun heavy food and save doctors' bills. Take an outing if only in the orchard. Oil is cheaper than new machinery. Temperance in eating and drinking better than medicine. Save all expense possible, but don't cheat the children out of their childhood; you will lose their respect and love. LOUISE D. PALMER.

Richmond, Me.

Cleaning Water Fountain.—The ordinary fountains are not easily cleaned, and in the course of a week or two become covered on the inside with slime. To get them clean, use the soapsuds from the family washing. Add a gill of kerosene to each bucket of suds. Immerse the fountain in the suds, which should be boiling hot. They should remain in the suds until the water is cool enough to allow of shaking the fountain well and then rinsing them in clear water.

R 2, Sparta, Mich. DINA STEVENSON.

Canning Rhubarb.—Wash the stalks in cold water until clean; cut into small pieces as if to cook; pack the pieces in Mason's jars until full, then fill the jars with clear cold water. Let them stand a few minutes until the bubbles cease to rise; brush bubbles off with hand and screw on top. Wrap in paper and set in cool place. The rhubarb will keep for years, and is almost as good as fresh.

To Clear Premises of Rats, take plaster of Paris three parts, corn meal one part; put in small boxes and set in dry place convenient for the rats. They eat this preparation readily and it is sure death. Neither poultry or stock will eat it, but for fear of an accident I always set my boxes containing the mixture where farm animals cannot reach it. I. B. NORTHCUTT.

Independence, Ky.

Marketing Turnips. — For market I grow Purple Top or White Globe. I wash them clean, cut off roots and top, put them up in half bushel baskets and try to have them of even size. Top layer in basket on one side of the handle I turn up purple side of the turnip; on the other side of the handle I turn up the white side of the turnip. The rich purple color on one side, with the creamy white on the the other, make a beautiful contrast on the market. One day a farmer with a load of turnips the same as mine, but with roots on and unwashed, though he offered his at 25 cents a bushel, could not sell one until all of mine were sold at 40 cents per half bushel basket. It pays to put up fruit and vegetables attractively. J. H. BOLLINGER.

R 1, Girard, O.

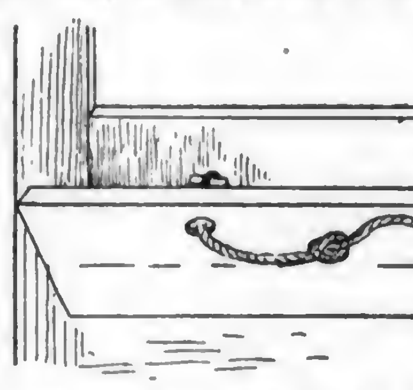
How to Secure a Lawn.—My daughter wanted a lawn in front of our house. "Well, that's easy to get," I said. So I made the ground nice and smooth and got lawn grass seed and sowed it. Then I waited for the lawn grass to gladden our hearts. But it didn't gladden worth a cent. So with that indomitable will of mine and that great perseverance which has characterized our family for years agone, I knocked the weeds out and put the lawn into fine tilth again. Then I bought more lawn grass seed, which, the dealer said, was the very best, and I sowed the second time, and sowed heavily. "This time it will be all right," I said; "that other dealer sold me bad seed." But it wasn't all right. Twenty-nine stalks of lawn grass started, lingered for a few days and then died. Then I made a lawn according to my own specifications. We had beautiful lawns all around us, on the hillslopes and in the meadows, so I concluded to move one of them to the front of the house. This I did. I sodded the lawn. It required heavier work than sowing lawn seed, but I had a lawn when I had finished. H. E. MCBRIDE.

Cliff Mine, Pa.

Papering Whitewashed Walls. — I am a little girl 12 years old. We saw in the P. F. directions for papering a whitewashed wall by sizing it with sugar and vinegar. Mamma tried that and a stain always came through a light paper. A better way is to take a pound of white glue, which costs 15 cents. Dissolve in cold water and let stand over night. In the morning pour on boiling water enough to make a gallon of paste, which is enough to cover a room 12x14 feet if put on carefully with a whitewash brush. It is much cleaner and cheaper and your paper won't fall off. JESSIE MCNEIL.

Star City, Ind.

Tying Cattle. — A simple way of tying calves or cows so that the tie rope will not get kinked and twisted, is to pass rope through hole in manger and tie around a short block on opposite side of plank. Then if rope should get twisted the block will turn and remove the twist. F. H. PATTERSON.



Smithville, Ont., Can.

Vinegar Pie.—This is as good as lemon pie if made right. First bake the crust as for lemon pie. Take the yolks of two eggs, keeping the whites for the tops; two heaping tablespoonfuls of flour stirred smooth with the yolks of eggs; two tablespoonfuls of good cider vinegar; one scant cupful of water and a good cupful of sugar and a lump of butter. Stir together and put in a skillet; set on stove and boil until it is thick, stirring constantly to prevent being lumpy. Then remove from range or stove and put one teaspoonful of lemon extract in; then beat the whites of eggs and spread on top. To prevent the crust blistering, prick with a fork before you put it in to bake.

Egypt, Ark. J. M. CHAMBERLIN.

Milk Skimmer.—We set our milk in coal-oil cans set upright in a tank of running water. We have never been satisfied with the skimming dipper. After much experimenting we have struck the following, which works like a charm: We got 3¼ feet of plain white rubber tubing one-half inch in diameter. Filled it with water to start it and used as a syphon. It will empty a 5-gallon can in less than two minutes and take the cream too, if you are not ready to stop it.

Greenleaf, Ore. MARION P. WHEELER.

To Carry Hay on Fork across garden, cut gunny sack down sides, put hay on long strip thus made; roll it up and stick fork through the lap. Not a straw will be scattered.

Water Trough for Ducks.—I made a water trough from a 5-gallon coal-oil can, by cutting off upper half of one side only; bent back edges, put handle lengthwise about 2½ inches above lower rim and have a 10-quart fountain in which ducks and chickens cannot climb, and it is pretty well protected from sun and dust. F. A. COWELL.

Lakebay, Wash.

For Egg-Eating Dogs. — Break two hen's eggs in such a way as to leave more than one-half of each shell unbroken. Mix with one of the eggs enough cayenne pepper to thicken it somewhat. A little fine corn meal may be used to make it a little thicker, so that it will not run easily. Fill one of the shells with the mixture, heaping it up as much as possible, and slip the piece of the other shell over the top, pressing it down to the shape of an egg. In a short time the two will be stuck firmly together. Wipe the outside to remove any possible trace of the pepper and place the egg in the nest that the dog is in the habit of robbing. Watch, and when he gets it in his mouth to carry away; a slight noise will probably frighten him so that he will hastily chew and swallow the egg. He will never try to steal another egg. The egg without the watching is usually effective, but he has a chance to discover the trick before eating much of it. R. E. M.

Melrose, Fla.

Sure Cure for Bad Cough.—Take wild cherry tree bark what you can hold between your thumb and finger and put it in a quart of water and boil the strength out. Strain it and put in a gill of vinegar, a cup of sugar, a tablespoonful of salt. Boil it down to a pint. Take a tablespoonful at a time. It will cure the worst of coughs.

R.F.D., Madison, N. C. W. A. MCCOLLUM.

Canning Tomatoes. — Select nice, ripe tomatoes, using none the least affected. Scald with boiling water, but pour it off immediately after all are well scalded. Remove the skin and cut out the hard lump in the centre. Put in first a small amount of hot water and boil only a few minutes in a tin or porcelain vessel. Prepare cans by rinsing first with warm, adding hot water. Drain all out while the can is still warm; put in tomatoes slowly at first; fill full, remove all seeds from around the top. Use new rubbers. Be sure the lid fits close. I use common Mason jars and keep in a cool place. No need to exclude the light as some seem to think. By this simple method I put up all my fruit, never losing any. MRS. W. M. PAYNE.

Decherd, Tenn.

To Teach a Calf to Drink.—Take a little new milk in a pan, straddle the calf's neck and give it two fingers after wetting them in the milk. Spread the fingers a little, and it will draw the milk at once. Two or three lessons will be sufficient. The way described in P. F. of May 30th is barbarous, and the man who would confine a little helpless calf in such a contrivance is a fit subject for the "society with a long name" to deal with. C. J. MOORE.

R 2, Morrisville, Vt.

Sorting Cherries.—Put the cherries into a dishpan and cover them with water about 6 inches deep. Then stir them up so as to give each one a chance to come to the top. All of the wormy cherries will float on top. This is the quickest and surest method.

R 2, Saltsburg, Pa. RALPH M. LYTLE.

Saving Seed Corn. — When gathering corn from field attach a box to side or back end of wagon bed. When you come to a stalk bearing two good ears, with no barren stalks near, put in box for seed. By this means you can in a few years breed your corn up until it will nearly all make two ears to a stalk, whereas, the old way of saving from barn is very uncertain, as a great deal thus sowed may have been fertilized by barren stalks. S. M. LILLARD.

Seguin, Tex.

To Utilize Flour Sacks, make them into quilts. Take eight 50-pound sacks, color four of them red and four blue, or any color you may choose. Square them, then cut the corners off of all, leaving them octagonal; then sew red corners to blue octagon, and *vice versa*, making all square again; then join the squares. You will have a good top, and a lining made the same way, or solid colors, make good quilts and the piecing can all be done on the machine in a very short time.

Belva, Ark. HATTIE LASITER.

◆

Dr. S. A. Tuttle.

Dear Sir.—The box of Elixir shipped me to Olean last summer, together with Worm Medicine and Powders, reached me O. K. We used the Elixir as a body wash on all our horses. We raced John Durrett nearly every week from July 1st until October 1st. In that time he took no cold or a sore step. We also cured a case of colic in five minutes. The family Elixir did not get a chance to try, as it was stolen. Will send an order soon for another dozen, also some Condition Powders. I believe your medicine the best all around thing on the market. Yours truly,

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Why will not all men insist upon having it, when it is so easy to get and to keep. Some men are eaten alive by tape-worms, others wander hopelessly for years dying slow deaths from bowel disease.

"After taking two Cascarets, there came on the scene a very unexpected visitor in the shape of a tape-worm eighteen feet long at least, which I am sure caused my bad health for three years." —Geo. W. Bowles, Baird, Miss.

"After taking Cascarets I have had a natural relief without taking medicine of any sort during the past two weeks. This had not occurred for 18 years." —Chas. E. Penny, 601 Yates Ave., Brooklyn.

"For three years I have been afflicted with diabetes. Since using Cascarets I have found great relief and feel that I must send you my personal recommendation." —C. H. Lyman, 813 West Ave., Buffalo, N. Y.

"I have been using Cascarets for stomach trouble of six years standing. I am cured and recommend them to all who need a remedy." —Rev. E. M. Chandler, Mill P. O., Mo.

"Cascarets cured me of the piles, with which I had long suffered." —J. L. Wolleson, Perry, Oklahoma.

"I used Cascarets for insomnia, with which I have been afflicted for twenty years. They gave me immediate relief."—Thos. Gillard, Elgin, Ill.

"Cascarets are the only remedy I have ever used that cause a fine, easy movement of the bowels without impairing the functions of the stomach." —Chas. S. Campbell, Sunbury, Pennsylvania.

Business as well as social life of today is one of strain and effort, and the struggle for existence in competition makes life a fight day in day out, in which care of body, nerves, blood is more or less neglected. Men wonder what's wrong with them. No man can stand such unnatural conditions unless he counteracts them by using Cascarets Candy Cathartic, causing regularity of body in spite of irregularity of habits. A man who "feels bad" should take Cascarets, find out what's wrong and be cured.

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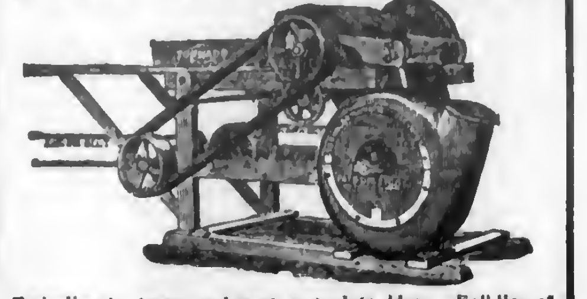

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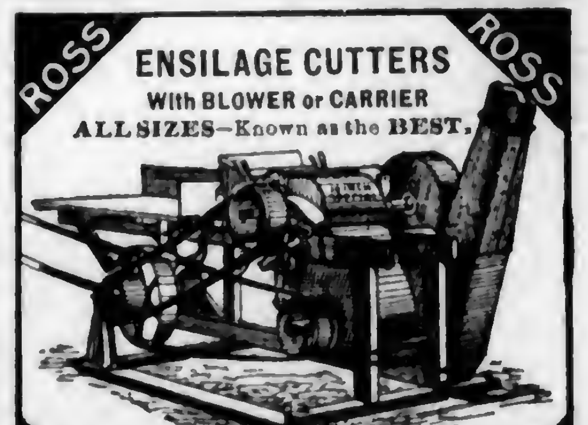

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Rock Fern.—Several years ago my father had a couple of acres grown over as thickly as it could stand, to a height of two or three feet, with rock fern or Jerusalem oak, or red bush, as it is variously called. This is usually very difficult to get rid of. We plowed the ground as early in the spring as we could, mowing the brush and forking it over on the plowed ground to dry, when it was burned. The land was harrowed a couple of times and replowed in August, and fitted for wheat in September. The result was complete annihilation of ferns and land clear of them ever since.

Settling with the Merchant.—Either keep a store account or else buy nothing on credit. A mistake I made a year or more ago was in running a small store bill with a merchant who was regarded as honest, and not keeping an account with him. Whenever I wanted to settle he would put me off with hadn't his books balanced, no hurry, etc., and when we finally did get settled I had to pay an amount nearly double that really due; because having no account I had to settle to his books. The above was ascertained from my general income and expense account and is not guesswork. S. A. HINDMAN.
Fisher, Pa.

Maule's Phenomenal Pansy.—If you knew how pretty and easy to grow the pansy is, you would plant them this month for early spring flowers. We bought a package of the above variety and there were just 22 seeds in it. We planted then and raised 19 healthy plants. We weeded them with a penknife and kept every weed out of the bed. We gave them manure water weekly until cold weather, then gave a light covering of brush. They lived through 8 degrees below zero, began to bloom in March and in June were still laden with flowers; not little pansy blossoms, but great, mammoth flowers, dark velvet. We took boquets to the pulpit, gave them to the sick, used them daily on the breakfast table and still they continued to bloom. ANNIE J. PADDICK.
Chauncey, Ill.

Macaroni.—Anything that can be kept on hand and prepared in case of emergency is useful to the farmer's wife. Although macaroni is not generally used, it is very convenient and with plenty of seasoning of different kinds, makes a very appetizing dish. Break into small pieces and boil in salted water until tender. If you have cheese, put a layer of the macaroni into a baking dish, then a layer of grated cheese, alternating until the dish is two-thirds full. Season with plenty salt, pepper and butter and pour a cup of sweet cream or rich milk over it. Cover with fine cracker crumbs and bake until brown. Cove oysters may be used instead of cheese with the most satisfactory results; or tomato sauce or catsup may be spread over each layer of macaroni. Used in soups macaroni is as good as noodles or dumplings and is always ready.

Vines on the Farm.—It will pay the farmer to keep a sharp lookout for vines on the farm, not only in the fields, but in the orchards, gardens and among the small fruit. The wonderful growth and increase and hardiness of a vine is something to marvel at. I had a fine strawberry bed entirely ruined by a hop vine because I allowed it to run upon the garden fence, whereas I should have grubbed it out when it first appeared. Morning glories and wild cucumbers are also difficult to exterminate if permitted to go to seed; they work while we sleep. A small plant of ground ivy was taken from a hanging basket and set out under a tree in a large blue grass yard. At last accounts the ivy had covered half the yard, killing every spear of blue grass in its track. The beauty of a vine weed is beyond question, but it has other qualities which cannot be tolerated by practical farmers. MRS. T. A. SHUFF.
New Berlin, Ill.

To Save Time When Ironing.—As I have just finished ironing, I will tell the "mothers" how I do my ironing. While the irons are heating I fold the sheets with the four corners in right hand. Shake well to get straight, lay on table smoothly one on top of another, being careful to keep the edges well together. Next spread pillow slips on sheets, then baby's napkins, dampening a little occasionally. Now you are ready to iron. Fold with left hand as you iron each piece, and by the time you get two or three pieces ironed, one stroke of the iron will do the work. I double towels and iron in same manner. Instead of dampening and folding each article of unstarched wear, I dampen my ironing board and iron on it just as easily as if the clothes had lain dampened for two or three hours. After ironing this way you will not go back to the old way.
Sweetwater, Tenn. MRS. J. P. JANEWAY.

Canning Fruit.—I have found a method of canning fruit which with me has proved a decided improvement over the ordinary way. In using self-sealing cans, unless both lids and rubbers are new or perfectly good, the fruit is very apt to spoil. Now I do not use any rubbers at all and the lids do not need to fit perfectly. I use sealing wax, which I run all around the lid where it comes in contact with the can; this is easily done with a red-hot poker, smoothing down evenly at every spot so there will be no air-holes. Then if your cans have been thoroughly cleansed and hot and the fruit properly cooked there will be but very little danger of it spoiling; at least such has been my experience for several years since adopting this method of canning. For several years I tried canning mulberries same as other fruit, but had no success. But I found that by adding several tablespoonfuls of good cider vinegar to each quart of the cooked mulberries, sweetening them suitably for the table and canning as I do other fruit, they kept perfectly. MRS. C. BURK.
Richmond, Kan.

New Way of Keeping Hams.—I want to tell the readers of the P. F. of a new way to keep hams during the summer; at least it is new to me. Before the warm weather comes we rub them all over with powdered borax and a little black pepper, then put in paper sacks and hang in a dry place. They will keep fine all summer.

To Cover Seam at Top of Ruffle.—In putting a ruffle on aprons or underclothing I used to cover the seams with braid or a bias piece of the goods. Now I have found a better way. Baste the ruffle on the other part of the garment so the seam is on the right side. When this is done fold a tuck in the goods so that the lower edge of the tuck will reach the gathering in the ruffle, baste smooth and stitch close to the edge of the tuck; also stitch close to the edge on the other side.

Uses for Borax.—If everyone knew the good qualities of borax there would be more of it used. For washing flannels it is fine, using a tablespoonful to 6 quarts of water. It keeps the flannels soft and prevents their shrinking. Is good for washing all kinds of clothing, preserving the color of colored fabrics; keeps white clothes from turning yellow. Excellent for cleaning hair brushes; a little added to starch makes it stiffer.
Trumansburg, N. Y. SISTER IRENE.

Too Many Fences.—A mistake we have made has been in keeping fences around all the fields on the farm, making considerable work in keeping down hedge rows, also in banding and repairing fences. Now that we are pulling down all fences except pasture and line fences, plowing the land and cultivating the crop are much easier. Another gain is in having crops growing in places that formerly were occupied by these useless and expensive fences. The plan also reduces the amount of idle land to pay taxes on. Don't maintain useless fences; they harbor foul weeds. A. C. FAULKNER.
Logansville, N. J.

Manure Your Good Land.—I made a mistake in applying my stable manure by hauling it to the poorest, reddest spots on my farm for the purpose of getting average yields on these particular spots, which custom nine-tenths of the farmers hereabouts follow. Finding that this plan barely paid me for the hauling I decided to put it on land that would raise fair crops without fertilizer. A fine crop was the result every time. So, brother farmer, if you wish to obtain the largest per cent. possible for what little stable manure you have, put it on your good land.
Lisbon, Tenn. M. M. CARTER.

Table Rug. — To the housewives whose dining rooms are carpeted, I would strongly advise the use of a table rug as a great saving to the carpet. We are much pleased with ours. It is woven of carpet rags with centre of gray, then fancy stripe and dark (not black) border. The rug can be woven any size desired; ours is about two yards long and one and one-fourth yards wide, woven in two strips. For the want of something better, a bran sack makes a very good table rug. If tacked down tightly it looks neat and does not show dirt easily.

Lost Pigs.—Have lost several pigs by the sow rooting the trough around and imprisoning the little ones beneath. Husband remedied this by feeding her in a large pail tied to the side of the pen.
Strykersville, N. Y. MRS. M. S. BARBER.

Bedding Sweet Potatoes. — We first make our bed; we use poles, but lumber is better. Put about one foot of manure in the bed and pack it solid. Put about 6 inches of dirt on the manure, then lay the potatoes on and cover with about 6 inches of dirt. If it does not get hot enough put a wagon spindle or skein in the middle of the bed, small end on the manure, and pour hot water into it. Put a cloth in the skein to keep the heat in and if it gets too hot remove cloth. To keep the rain off we put up posts at each side of the bed, nail on cross-pieces and cover with fodder. Have south side high enough so sun will shine on the bed. L. D. ARNOLD.
Columbus, Kan.

A Fruit Canning Experience.—I had read several times that to wet cloths in cold water and wrap around fruit jars before filling would prevent breakage. So I tried it last summer with the result that my jar cracked immediately the fruit was put in. I now have my jars very clean and slightly warm; wrap dry cloth around one, put in a spoonful of hot fruit so it will touch the side of the jar first, cover top with cloth and let it remain for a few seconds, then fill jar with remainder of the fruit. I formerly boiled each jar very carefully, beginning by filling it with cold water, but find our present plan saves a great deal of time and the fruit keeps equally as well. MRS. WM. LEA.
R 4, Marietta, Ga.

Adulterated Mill Feed. — A mistake, which may yet prove a very serious one, is that of buying mixed mill feed into which there has been ground screenings and weed seed, especially cockle, which latter contains an active poison. Being short of grain I brought home a lot of so-called mixed feed, and on examination I found it contained a considerable amount of cockle seed and even rotten corn (the sweepings of the mill). I fed some of it to horses, and as a result had a sick horse. If we will use this kind of feed we must be at the mill and see such feed put together; or, better, buy the shorts, bran and meal separate and mix them ourselves. A dollar invested in the mixed feed referred to may prove a loss of a hundred or more. In feeding good cow pea hay one needs to be careful not to give the horses too much of it alone, as the protein overbalances the carbohydrates. GODFREY WINKLER.
Southwest City, Mo.

Turnips and Kale.—We made a serious mistake last year in trying to raise a crop of turnips. We plow under our strawberry beds and manure the ground heavily after fruiting, then sow turnip seed and raise a lot of large flat turnips for winter feeding. Did not send for the turnip seed when I ordered the rest of my seeds from Maule, but bought it at the store when ready to sow. The result was a big crop of kale which blossomed and would have stocked our place if we had not mowed it and fed to hogs. Our turnip seed is in the house now, having just arrived from Maule. Don't expect to raise kale this year. Hope everyone will buy seeds where they know they will be pure and true to name.
R 1, Charlotte, Vt. MRS. W. W. PARKER.

Good Canned Grapes. — As my canned grapes have been complimented very highly I will give my method for the benefit of the readers of the P. F. Select nice, ripe grapes and pulp them. Put the skins in one vessel and pulp in another. After all are pulped put pulp in a porcelain-lined kettle and boil for a few minutes, then take out and rub through a sieve, which will remove all seeds. Now put pulp and skins together, boil a few minutes and can in the usual manner. They are vastly superior to grapes canned with seeds in them, either for pies or preserves.
Bluff City, Tenn. MRS. E. A. MILLS.

Uses for Coal Tar.—In the dehorning of cattle or castration of any stock, use coal tar. Make a strong solution and with an old broom spray cows in fly time, being careful not to contaminate the milk. If your pigs run in the orchard and are inclined to strip the bark from the trees put on the coal tar and they will surely let them alone. If rats bother you catch a live one, give him a good coating of the tar and let him go. His comrades will leave at once. If moles bother in the garden, eating peas or other seeds, put the seeds in a solution of coal tar before planting and they will grow unmolested.
Ada, Mich. H. C. DENNISON.

Household Helps.—To remedy a smoking fireplace, tack a piece of sheet-iron over the fireplace so it will come five or six inches below the top, being careful to tack it so the smoke will not come out between the sheet-iron and top of fireplace. One-half of a common thread spool attached to the bottom of the lower window sash is a help in raising it. A piece of sandpaper tacked on the wall, with some matches near, is a great convenience. To clean smoothing irons use vinegar and soda, rubbing the mixture on the irons with a cloth until they are clean and smooth then wash the iron off in clean water. A quick way to clean knives and forks is with brick dust and soapsuds. Rub two pieces of brick together to get the dust. LENA WARLICK.
Lincolnton, N. C.

For Health.—I have abandoned the use of tea, coffee and corsets, and you can't imagine how much better I feel. After a few days I found a glass of pure water just as pleasant for dinner and supper as the hot tea. I soak oat flakes in cold water over night and cook one hour in the morning. For house dresses I wear wrappers made of pretty outing flannel for winter. These may be washed often and are so much neater and more healthful than the worsted waist and heavy skirts so many women wear. As you value your own health and that of your children, don't allow the unused doors and the windows to be "corked up" during the winter. Admit plenty of fresh air.
Tully, N. Y. MRS. FRANK MASON.

A Woman's Prayer

It is notable that in the despondency caused by womanly diseases, there seems to many a suffering woman no way of escape from pain except at the price of life itself. It would be sad to record such a story of struggle and suffering except for the fact that in such dire distress many a woman has found a way back to health and happiness by the use of Dr. Pierce's Favorite Prescription. The one and only remedy for leucorrhea, female weakness, prolapsus, or falling of the womb, so absolutely specific and sure in curing these common ailments of women, as to warrant its makers in offering to pay, as they hereby do, the sum of $500 reward for a case of the above maladies which they cannot cure.

"Your medicine almost raised me from the dead," writes Mrs. Edwin H. Gardner, of Egypt, Plymouth Co., Mass., Box 14. "My urine was like brick dust, and I had pain all over me, and such a dragging feeling it seemed I could not do my house work. One day I found a little book. I read it and wrote to Dr. Pierce, and in a few days received an answer. I decided to try his medicine, and to-day I am a well woman. I have no backache, no headache, no pain at all. I used always to have headaches previously to the monthly period and such pain that I would roll on the floor in agony. I took three bottles of Dr. Pierce's Favorite Prescription and three of 'Golden Medical Discovery' and three vials of Dr. Pierce's Pleasant Pellets, and was completely cured."

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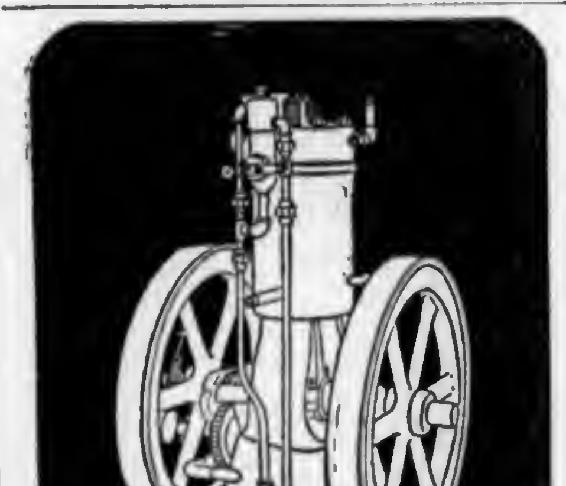

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Co-operation

Banded Together for Mutual Benefit

In the Greatest Co-Operative Society in the World—

The Cash Buyers' Union First National Co-Operative Society, Chicago.

Think what this means to the American farmer and his family—putting their money into a *combination with a buying power greater than any institution in the World*. This is not prospective; it is a fact. The Society is organized; the farmers are banded together, and they are buying stock like wild fire. Hundreds of new members are coming in every day. *Why?*

Because it is the right principle; because it means money saved to every member of the Society.
Because it means a profit to every member of the Society.
Because it means that the great American farming community is banded together for mutual benefit and that they are deriving all of the benefits.

Wise men from the East, and the West, said the principle was right, if it could be done, but they doubted whether the American farmer could be interested; he was too busy, they said. The past few weeks have proved that they were all mistaken. The American farmer was interested; he is interested. The manner in which he is subscribing to the stock proves that he is not only interested, but that he has convinced himself of the stability of the CASH BUYERS' UNION, FIRST NATIONAL CO-OPERATIVE SOCIETY, as well as the tremendous possibilities opening up before him. If you have not seen any of our previous advertisements we want to tell you a little about our proposition here.

The old Cash Buyers' Union, well and favorably known for eighteen years past (having over half a million satisfied customers and friends) has been reorganized into the CASH BUYERS' UNION, FIRST NATIONAL CO-OPERATIVE SOCIETY, and the Preferred Shares of its stock have been placed on the market. This stock guarantees a dividend of 7% annually; is absolutely par value—non-assessable and in effect a first mortgage—represented dollar for dollar in assets, and participates in all of the other profits of the business, which have amounted in the past from 15% to 40%. **These Shares are $10.00 each**, and one $10 share permits you, the share-holder, to enjoy privileges (given below) which not only save you large sums in the goods you purchase but gives you all benefits of partnership, and allows you commission on all business ouy influence to the store in which you are a partner.

ONE $10.00 SHARE OF 7 Per Cent GUARANTEED FULLY PAID PREFERRED STOCK

Entitles you to a full membership and partnership in our immense business;
Enables you to purchase all good bought for your own use at practically cost;
Entitles you to a commission of 5% on all goods sold through your influence.

The $10.00, or as much more as you care to invest **Puts You in Business for Yourself** with all the rights, privileges and immense profits on your money, in one of the biggest mail-order houses in the country; enables you to save hundreds of dollars on goods you eat, wear and use, and gives you a chance to make from $25 to $150 per month in commissions on all goods sold in your neighborhood through your influence, without any risk, expense or capital of any kind excepting the small amount you invest.

WHAT YOUR NEIGHBORS THINK.
Here are letters from people who have subscribed for stock, and this is what they think about our plan. Read the letters, and if you care to write to the people, do so.

Shelby, O., June 25th, '03.

Cash Buyers Union, Chicago, Dear Sirs:—You will please send me your prospectus of your profit-sharing stock. I will want $500.00 worth of stock if I can get some money gathered that I have out. Of course I have all faith in your Company, as I have bought lots of goods from you when I lived in Millersburg, O., where I moved from this spring.

I have worked hard and saved up this money to buy a home soon, but I firmly believe it will be worth more to me invested with your Company than it would be in a home. Now I believe I can work up lots of business here for your Company, if you will let me in with $500.00 worth of stock I think we will make............................(Here he gives the names of several of our competitors) and all the rest of them hustle to keep a going.

Kindly let me know by return mail, if possible, if you can and will let me have fifty shares of Preferred Stock, and if so I feel sure I can do you lots of good. Very truly yours
I. O. Harpster, 63 Second Street, Shelby, Ohio.

Wisconsin Veterans' Home, Wis., June 24th, '03.

Julius Kahn, Chicago, Ill. Dear Sir:—Seeing the advertisement of the Cash Buyers' Union in the Sunday Milwaukee Sentinel, I have concluded to make a small investment in the same, so enclose P. O. money order of ten ($10) dollars for one (1) share of preferred stock, and I now think I shall take three or four more shares of same about July 10th, when I shall have more funds than at present.

I am satisfied I can send you a good many orders in the course of a few months, as we have nearly one thousand here in the Veterans' Home, and nearly all their buying is done at Waupaca, four miles distant, and prices are high.

I should be pleased to have you send me a general catalogue as soon as convenient. Yours very truly,
Samuel F. Henry.

BIG BOOK OFFER. We have written a comprehensive book of 48 pages, telling the whole story. If you will write at once for this book, using coupon below, we will send it to you *free;* or better still, send in your subscription to the bank and reserve as much more stock as you want—under $500—if you haven't money enough on hand. Don't hesitate a moment, but write today. **DO IT NOW!**

Cash Buyers' Union, First National Co-Operative Society, 158 to 168 W. Van Buren St., Chicago.

REFERENCES:—First National Bank, Chicago, Depository; Metropolitan Trust and Savings Bank, Chicago, Registrars; Messrs. Lord & Thomas, Advertising Agency; Dun's or Bradstreet's Mercantile Agencies; any railroad or express company. The publisher of this or any newspaper or magazine. Any bank or business house in Chicago.

REQUEST FOR PROSPECTUS.

Cash Buyers' Union, First National Co-Operative Society. Dept. A909
158 to 168 W. Van Buren Street, Chicago.

Gentlemen:—Please send your complete "Book of Information" and all literature pertaining to the profit-sharing stock of your company to

Name.. Street..............................

P. O,.............................. ......State..

It is understood that above will be sent to me free of all charges and that I am under no obligation whatsoever to subscribe.

For Quick Action Fill in this Remittance Blank and send in plain letter with P. O. Order, Express Order, Check or by Registered Mail, if currency

Metropolitan Trust & Savings Bank Dept. A909
Cor. Madison & La Salle Sts., Chicago, Ill.

Gentlemen:—I hereby subscribe for.......... shares of the full paid, non-assessable, 7% Preferred and fully participating stock of the Cash Buyers' Union, First National Co-Operative Society at $10.00 per share

Enclosed find $........in payment of same. This stock is to be registered by you in my name and the stock certificates sent to me, and when so registered and sent to me you are authorized to turn over my money to the company. If my subscription is received too late, the money is to be returned to me.

Name.......... ....Street..............................

P. O.... ....State..............................

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce news of the weather, progress of farm work, crops, etc.

Located one mile from Mayfield, Kentucky. Graves county is 18 miles wide by 36 long. Tobacco is the money crop. The present crop is the best prospect for many years. We have had a very seasonable year. Land varies in price, according to location, from $20 to $100 per acre; tobacco, 4 to 10c. per lb.; corn, 70c.; peas, $1.25 per bu.; butter, 20c. per lb.; eggs, 12½c. per doz.; hogs, 5c. per lb., gross; horse, $40 to $150; cows, $20 to $100 each, mostly Jerseys. Farmers are in a very prosperous condition. The P. F. is gaining in circulation fast.
J. W. JOHNSTON.
Mayfield, Ky., Aug. 11, 1903.

Situated 3 miles from Palmyra, the county seat of Fluvanna Co., 60 miles northwest of Richmond and 100 miles southeast of Washington. Weather hot and dry. Crops: Wheat a failure; oats short; rye fairly good; corn, prospect medium; hay A1; tobacco good. Prices: Wheat, 90c.; corn, 60c.; oats, 50c. per bu.; bacon, 12c.; spring chickens, 10c.; old hens, 8c.; ducks, 8c.; guineas, 12c. per lb.; eggs, 12c. per doz.; horses, $40 to $200; cows, $15 to $25 each; hogs, 5c.; lambs, 5c.; ewes, 4c.; bucks, 2¾c.; cattle, 5c. per lb.; farm hands scarce; wages, white, 50c.; colored, 40c. and board per day; land, from $2 to $40 per acre, according to condition and improvements; a fine opening for those wanting cheap farms and are willing to work and improve them.
WM. McK. GILBERT.
Palmyra, Va., Aug. 10, 1903.

Our cotton is improving some. We will harvest about from 50 to 75 per cent. of a crop. Cotton planted after grain is fine; almost as large as the old now. Corn is generally good. Peas are very promising. Dry spell broken a few days ago. Crops will all soon be laid by. Cotton is due one more plowing. Prices of provisions continue high, with little variation. Corn, 90c.; meal, $1 per bu.; bacon, 10c.; lard, 10 to 12½c. per lb. Gardens are very good; products good sale. Fruit is almost a failure; rotting before it gets ripe. Good sale for what we had. Melons and canteloupes are very good. Cotton, middling, 13c. per lb. ROBT. M. HITT.
Montmorenci, S. C., Aug. 10, 1903.

Weather warm; not much rain in the past ten days. Corn laid by, looking good; farmers busy harvesting hay and oats; both an average crop. Sowed corn, cow peas and clover looking good. The farmers have caught up with their work now. Prices: Corn, 70c.; oats, 48c.; potatoes, 75c. per bu.; butter, 15c.; chickens, 12c. per lb.; eggs, 18c. per doz. E. R. I. FREELAND.
Barrackville, W. Va., Aug. 11, 1903.

Located in Madison Co., 20 miles from Syracuse. Weather rather cold. Corn very backward with not much prospect of its having time to mature. Haying very backward, but heavy crop. Prices: Oats, 40c.; wheat, 80c.; barley, 70c. per bu.; eggs, 20c. per doz.; butter, 20 to 25c. per lb.; blackberries, 10c. per qt.; potatoes, $1 per bu. Hops looking good, but are backward for time of year.
E. R. DAVIS.
Cazenovia, N. Y., Aug. 12, 1903.

Located in Rockingham Co., 6 miles from the county seat, Harrisonburg, which is in a flourishing condition; building up rapidly; is the best horse market in the State; horses are brought here from the State of W. Va. in goodly numbers, as well as from different counties in the State. There are a number of horse buyers from the Northern cities on every third Monday of each month, being our county court days. Horses bring from $125 to $200 according to quality; cows bring from $25 to $50 each; hogs, 5 to 6c. per lb. gross; eggs, 16c. per doz.; butter, 15c. per lb.; wheat, 75 to 80c.; corn, 55 to 60c. per bu. Potato crop good; brings 50c. per bu. Have had a good season. Hay a heavy crop. Apples plentiful; wheat fairly good; corn looks fine; prospects for a full crop; peaches a failure.
D. H. WEAVER.
Mt. Clinton, Va., Aug. 11, 1903.

In this section of Tazewell Co., Ill., the outlook for crops of all kinds is not so good as it was last year. The oats crop yield is from 10 to 30 bushels per acre, the smallest yield for many years. Rye and wheat not much sown; yield poor; hay, potatoes and fruit only fair; corn is of a short growth and late; bad condition of the soil and too much cool weather were the chief causes. We have had some heavy rains and wind storms that injured the crops considerably. The farmers seem to have plenty of money; got good prices for their produce and stock. Wheat, 65c.; corn, 49c.; oats, new, 30c.; potatoes, 80 to $1 per bu.; fruit high and scarce; butter 15 to 20c. per lb.; eggs, 12c. per doz.; poultry very high; cattle, $3.50 to $4 per cwt.; hogs, 5 to 5¼c. per lb.; horses and mules bring good prices; sheep, none raised. Farm help is scarce and wages high. Grain and cash rents high; one-half grain and $5 to $7 cash. JNO. D. SMITH.
Mackinaw, Ill., Aug. 10, 1903.

Our village is located 14 miles from Owosso, 22 miles from Saginaw. Is surrounded by a fine farming country, with fertile and productive soil. Name is of Indian origin, from chesa, big, and ning, stone. A big rock adjacent to the village gave rise to the name. Price of land, $25 to $75 per acre. Labor scarce and high, caused by the raising of sugar beets in this vicinity. Beans and potatoes are also extensively raised; corn, oats and grass also do well. Land is too level for certain crops of winter wheat. Prices: Wheat, 70c.; oats, 35c.; corn, 60c.; potatoes, 65c. per bu.; eggs, 16c. per doz.; butter, 15c. per lb. We have R. F. D., and talk of an electric R. R. in near future. Farming up-to-date. Farmers wide-awake with regard to improving present conditions, and are looking forward to better farming and better roads on which to draw better crops to market. Success to the P. F., which is helping to bring about these results.
W. L. BLAKESLEE.
Chesaning, Mich., Aug. 10, 1903.

Northern Jefferson Co., 34 miles west of St. Louis. We are having a nice, cool summer. Spring very wet; little oats sown, and corn ten days late; doing very well now, but we had to hustle to head the weeds—the man behind the cultivator was the hero. Wheat threshed very poor; crop about one-third of an average; hay crop good, especially clover; will get a good seed crop also; apples and peaches about a total failure; strawberries fair and blackberries plentiful; early potatoes very good; gardens and pastures ditto. No rain for 15 days, though our friends in every direction are faring better. Creameries a failure; at least five idle in this county. Prices: Wheat, 70c.; corn, 45c.; potatoes, 60c. per bu.; spring chickens, 9c.; butter, 16c. per lb.; eggs, 11c. per doz. Less wheat will be sown this fall. Our farmers are in bad humor. JOHN GEATLEY.
Scheve, Mo., Aug. 8, 1903.

Located in Elkhart Co., Northern Indiana, one of the best counties in the State. Season good so far. Wheat fair, 71c.; oats fair 30c.; corn looks very good, 50c. per bu.; hay very good, $10 per ton; potatoes fair, 25 to 30c. per bu.; butter, 14 to 16c. per lb.; eggs, 14c. per doz.; fat cattle, 3 to 4c. per lb.; cows, $25 to $50 each; hogs, 5c.; sheep, 3c.; lambs, 4 to 4½c.; chickens, old, 8c.; young, 10c. per lb.; horses, $125 to $200 each; honey, 11c. per lb. Day laborers scarce, wages high. Fair average of rain so far. People contented. JACOB LONGANECKER.
Napanee, Ind., Aug. 12, 1903.

Situated in Anson Co., near the South Carolina line. We have had varying season. Sometimes too wet, then too dry; results, crops are not up to the normal. Cotton is small and at least two weeks late. Corn generally late, but promises a fair crop; potatoes and all side crops doing well. After three weeks drought, we are now having rather more rain than is needed for cotton and lowland corn. The farmers are generally hopeful. Prices: Horses, $100 to $200; mules, $75 to $150; cows in milk, $30 to $75 each; wheat, $1; corn, 75c.; oats, 50c. per bu.; bacon, from 10 to 15c. per lb.; eggs, 10 to 15c. per doz.; butter, 20c. per lb. Gardens are fine, hence vegetables are cheap.
T. J. WATKINS.
Poplar Hill, N. C., Aug. 11, 1903.

Located 18 miles northeast of Asheville, N. C., and 10 miles from Southern R. R. Chief products are corn, cattle, wheat, hay and poultry. The large tobacco crops of years ago have gone glimmering to the tune of trusts and low prices. All garden vegetables are grown for home supplies. Wheat is being threshed and about half a crop. We had a wet, late spring. Very little corn planted until May, which grew rapidly during hot weather in July, and with favorable weather will make an average crop. Prices: Wheat, 90c. to $1; corn, 70c. per bu.; eggs, 14c. per doz.; butter, 15c. per lb.; pigs, $2 each. Some advancement in farming methods.
C. H. REEVES.
Canto, N. C., Aug. 10, 1903.

Located at Cliff Mine, 12 miles west of Pittsburg, on a branch of the P. & L. E. R. R. Harvest is nearly all gathered except the oats. Oats somewhat light crop on account of late seeding and cool weather. The late rains, however, are bringing them on rapidly. Farmers were "down in the mouth" before harvest, thinking that all the crops would be short. Hay crop good; wheat crop only middling, but think the oat crop will be above the average. Grand apple crop and good gardens; peaches scarce. Dairying is the principal business here. Milk is shipped to Pittsburg and the prices are higher now than ever before. Threshing will commence soon, as that follows immediately after the gathering of the oats. New oil field has been opened near Imperial, and considerable work is being done. Good roads are being constructed in all directions from Pittsburg, and all business seems to be going forward on the jump.
H. E. McBRIDE.
Cliff Mine, Pa., Aug. 12, 1903.

Located in southern part of Hardman Co., 12 miles south of Bolivar, our county seat, 4 miles north of Middleton, one mile west of Lisbon. The season started out very cool and dry; made crop prospects very gloomy, but rain and warmer weather came at last and now crops are fine. Corn, cotton, sorghum and peas are the principal crops; all doing well. Prices: Corn, 65c. per bu.; cotton, 12½c. per lb.; peas, 75c. per bu.; sorghum, 25c. per gallon; farm land, $1 to $10 per acre. Success to P. F. M. M. CARTER.
Lisbon, Tenn., Aug. 10, 1903.

Are having very hot weather; has been dry, but had good rain a few days ago. Cotton is looking fairly well, but corn was injured perhaps 20 per cent. by recent drought. Crops are about 75 as compared with last year. Farmers will most all finish "laying by" crop this week, which is about three weeks late, caused by backward spring, cool weather, want of rain and slow growth of crops. Prices of everything are high.
ENOS C. PITTMAN.
Poindexter, Ark., Aug. 8, 1903.

Located 30 miles north of Williamsport, on N. C. R. R., in Tioga Co. We had a dry spell in May and part of June, but rains came in time to save the grass, oats and potatoes. Early corn most all rotted, and had to be planted over again. Farm labor is scarce and wages are high. Prices: Horses, $50 to $200; cows, $25 to $40 each; hogs, $8 per cwt.; hay, $6.50 to $8 per ton; butter, 17c. per lb.; eggs, 18c. per doz.; corn, 80c.; oats, 50c. per bu. H. E. ANDRUS.
R 1, Roaring Branch, Pa., Aug. 11, 1903.

We have been having very warm weather and plenty of rain. Most of the farmers have finished their haying and many are harvesting their oats. Fruit crop very light. Farming is carried on extensively in this section. We have two churches and one flourishing Grange. Prices: Butter, 20c. per lb.; eggs, 22c. per doz.; hay, $12 per ton. I have taken the P. F. for some time, and find it an excellent paper. SAM'L VALENTINE.
Vose, Pa., Aug. 10, 1903.

Situated in northern tier of counties, 5 miles from Rockford, Ill., population 40,000. We have electric cars, telephones and rural mail. Oats crop all cut; crop 90 per cent.; corn doing finely, earing out well; potatoes, pastures and gardens good. Prices: Pork, $5.25; cattle, $4.75; sheep, $5; veals, $5.50 per cwt.; oats, 32c.; corn, 52c. per bu.; hay, $11; oat straw, $5 per ton. Plenty of rain. Farmers up-to-date. E. V. HARTMAN.
Roscoe, Ill., Aug. 8, 1903.

Lavaca county, in Southwest Texas, about 75 miles from the Gulf, has been undergoing severe rain for the last week, much to the injury of cotton, which needs dry weather. Corn crop made, is immense. By the statistics of the county tax assessor Lavaca makes the following showing for 1903 (in part): Land rendered, 605,060 acres; value, $3,218,807; vehicles, all kinds, 5,348, value, $84,830; tools, machinery, etc., $72,064, decrease, $6,000; engines and boilers, $38,240; horses and mules, 11,682, value, $230,834; cattle, 42,895, value, $312,390; dogs, 3,039, value, $3,283; jacks and jennets, 26, value, $890; sheep, 697, value, $793; goats, 317, value, $286; hogs, 9,915, value, $11,692. Property in this county is "given in" at one-third its actual value. W. F. ADAMS.
Yoakum, Texas, Aug. 8, 1903.

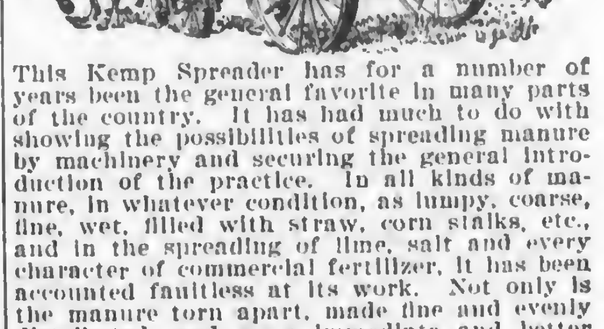
◆

A CURE FOR ASTHMA.

Asthma sufferers need no longer leave home and business in order to be cured. Nature has produced a vegetable remedy that will permanently cure Asthma and all diseases of the lungs and bronchial tubes. Having tested its wonderful curative powers in thousands of cases (with a record of 90 per cent. permanently cured), and desiring to relieve human suffering, I will send free of charge to all sufferers from Asthma, Consumption, Catarrh, Bronchitis and nervous diseases, this recipe in German, French or English, with full directions for preparing and using. Sent by mail. Address with stamp, naming this paper, W. A. Noyes, 847 Powers Block, Rochester, N. Y.

◆

The 1903 Kemp Manure Spreader.—An implement of greatest value to the farmers is the modern manure spreader. The value of the manure annually produced upon the farm is recognized, but too many farmers do not appreciate that a large part of its value escapes them by failure to spread aright. We show here a type of what is best and secures the best results in manure spreaders. It is the original Kemp Spreader as it has been improved and appears on the market this year.



This Kemp Spreader has for a number of years been the general favorite in many parts of the country. It has had much to do with showing the possibilities of spreading manure by machinery and securing the general introduction of the practice. In all kinds of manure, in whatever condition, as lumpy, coarse, fine, wet, filled with straw, corn stalks, etc., and in the spreading of lime, salt and every character of commercial fertilizer, it has been accounted faultless at its work. Not only is the manure torn apart, made fine and evenly distributed, and more immediate and better results secured, but the cost of spreading is materially reduced. By its various attachments it is made to spread fast or slow, as desired, to distribute broadcast or drill in single row or in two rows up to five and a half feet apart. The whole operation of spreading is controlled by the driver, from his seat, there being no occasion for dismounting from the time he leaves the stable until he returns for re-loading. The company's illustrated catalogue gives full and accurate information. Write for it to the Kemp & Burpee Mfg. Co., Box 33, Syracuse, N. Y.

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J. J. Koger & Sons
Mooresburg, Tenn.

5 LBS. PER DAY IS AN EXTRAORDINARY GAIN

ROCKPORT, KANSAS, Nov. 21, 1902.

International Stock Food Co., Minneapolis, Minn.

DEAR SIRS:—Your **"International Stock Food"** is all you claim for it. We have the nicest pigs and hogs that we ever had. Tested it on one old sow that was very poor from suckling pigs. She could hardly make a shadow. We took the pigs away and fed her **"International Stock Food"** in her feed and I do really believe that she put on 5 pounds of flesh per day. Yours truly, M. C. JERBY.

☞ We Have Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited. ☜

We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all of our WORLD CHAMPION STALLIONS, DAN PATCH 1:59¼ and DIRECTUM 2:05¼; to our YOUNG STALLIONS, BROOD MARES, COLTS, WORK HORSES, CATTLE and HOGS. "INTERNATIONAL STOCK FOOD" ☞ 3 FEEDS FOR ONE CENT ☜ is Prepared from Roots, Herbs, Seeds, and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite and Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It is Absolutely Harmless even if taken into the Human System. You insist on eating medicinal ingredients with your Own food at every meal. Salt is a stomach tonic and worm medicine, Pepper is a powerful stimulating tonic, Mustard is a remedy for dyspepsia, Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World. ☞ Your Money will be Promptly Refunded in Any case of failure. It will make your Calves or Pigs grow Amazingly and has the largest sale in the World for keeping them healthy. ☞ Beware of the many Cheap and Inferior Imitations! No Chemist can separate all the Different powdered Roots, Herbs, Barks and Seeds that we use. Any One claiming to do so Must be an Ignoramus or a Falsifier.

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Dear Sirs:—I received your "International Stock Book" and was more than pleased with it. It is worth more than $10.00 to me. Very truly yours, RICHARD J. MORRISSEY.

INTERNATIONAL STOCK FOOD CO., ODESSA, MO.
Dear Sirs:—Your "International Stock Book" duly received, and it is the best thing of its class that I have ever seen. There is a volume of useful articles in it from start to finish.
Respectfully, GEO. W. NULL.

A $3000.00 STOCK BOOK FREE

IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.

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WE WILL MAIL IT TO YOU ABSOLUTELY FREE. ☞ Postage Prepaid.

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THE KEYSTONE TO SUCCESSFUL FARMING

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SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Tillage May be Made to Increase the Available Fertility.

Years ago I might have headed a tillage article with "Tillage is Manure." In a certain way this is correct, but the above title is more accurate. Tillage can be made to bring you larger crops. Manure will do the same thing. But you do not have enough manure to bring the whole farm to the highest degree of productiveness. Better and more tillage will help many a brother out along this line. Any reasonably good farm soil contains large quantities of inert, or unavailable, plant food furnishing elements. More tillage than is ordinarily put on the land, and of the proper kind, will make more of this available in a given season, and perhaps for a year or two afterwards. If one has strong horses and good tools, and arranges to keep them busy to the best advantage, this extra tillage, above ordinary, can be made to pay far better than the small amount of tillage pays that is commonly put on land. There you have the matter in a few words. If any man living has the right to say these things from experience it is the writer. Thirty-three years ago he moved onto a farm that was run down until it would scarcely produce anything under the practice of common methods. He was heavily in debt and had no capital or other source of income, except as he might work out a little now and then to get enough to buy something to eat with. The previous occupant was unable to pay his rent and almost starved besides. We saw as hard times for three or four years as often come to mortals. With little to eat and buying nothing new to wear we managed to pay our interest and taxes in some way. Postage on papers was paid by the receiver in those days and sometimes we had to let ours remain in the office because we did not have the few cents needed. My wife rode to town on the same wagon we drew manure on, for a time, if she went at all. And she would go up once in a while to get trusted for something we could not do without longer, and then come back without it, the price seemed so high and the chance for paying for it so slim. Oh, but those were gloomy days, full of hard work, early and late, and nothing to show for it, only a roof over our heads, and that leaked so we had to take all the spare pans and pails upstairs when it rained, to catch the water that came through. These are facts, my dear friends, and they do not make the picture as dark as the reality was. And still within a dozen years we were living pretty well and getting ahead fully a thousand dollars a year after paying all expenses. Previous owners of the farm considered it as almost miraculous how we were able to do this. The road to success was discovered almost by accident. I happened to work a little piece of land over and over every few days, not having much else to do, and solely with the idea of doing a good job, of making a nice seedbed. I knew nothing about the plant food elements in the soil and how they could be made more available. I never dreamed that the ultimate result was to be prosperity beyond our wildest fancies. Well, the crop was a surprise and set me to thinking for all there was in me. Much tillage was tried again the next year on another crop, with similar results. About the same time, following the advice of my good neighbor, A. D. Croy, I sowed a small piece of well prepared land with clover seed alone. I had always lived in town and had no experience in farming. This little plat was far better soil than the average and the season was wet and the clover did fairly well. The land had probably never had any clover on it before, and certainly it was timothy sick. Oh, how far it was between the windrows when raking timothy, and weeds, and how discouraged I got when I thought of the wife and babies. The amount and quality of the clover hay, and the increased fertility for following crops, attracted my attention. Soon as it could be brought around we were following a regular rotation with clover coming in often, and we were getting more experience in the management of tillage. All manure was used to start clover, in connection with thorough tillage. In due time the results became marvelous, considering the conditions under which we started. We were getting from 33 to 38 bushels of fine wheat per acre right along. We averaged 35 bushels for five years. The land had never produced anything like such crops in its days of virgin fertility. We rarely got less than $100 worth of potatoes per acre, and often more, and the clover produced hay—well, three acres would produce more in value than 40 did the year we came here. In 1881 the last dollar of debt was paid and enough money taken to buy a fine team, costing $380, still leaving a good sum in the bank. Oh, but didn't we enjoy driving something besides bones and hides once more. In 1883 we built our present home, the first cost of which was about $2,500, and nearly $1,000 was paid for new furniture, and all of this cash down, and from the same farm that we almost starved on at first.

Now then, it is time to be working land for winter wheat. Our greatest success was along this line, perhaps. The yield jumped right up under the effects of a heavy clover sod (with what manure was made used on poorest spots) and almost unlimited tillage. We would harrow and roll, or use a clod crusher, alternately, until the land was like dust, almost. And then we would take a 2-horse cultivator and tear it up as deeply and roughly as possible, lengthwise and crosswise, laughed at, probably, by all the old farmers in the neighborhood, for a time. Next it was harrowed and rolled again. When it seemed all ready for sowing to others I would tear it up and fit it over again, but being careful to roll the soil down firm before drilling. The horses had to work, and I worked, and ate dust day after day. But the dust turned to gold at harvest time, giving us such pay for our labor as to soon make us independent. Of course the tile draining that we did where it was needed helped, so did manure saving, and growing a clover sod regularly and often. But tillage, stirring the ground often and deeply, gradually increasing the depth of plowing until we had about doubled the depth of the soil—these were one great big important link in the chain of success. We were able to get thousands and thousands of dollars out of our land that no one then dreamed were in it. Next, at the earnest request of the Country Gentleman first, then of the Ohio Farmer and other papers, and of Ohio's Board of Agriculture, I began to try to tell others, with pen and voice, how these things had been done. Never in one single instance have I sought such work. There was no occasion for it. Hundreds of private letters show that the writers have followed along about the same line with similar results, sometimes better ones. Time and again thankful friends have written or told me that these methods, the inspiration and start they got from these columns, had turned failure into success for them. A letter just happened to come in from a good friend of the P. F., F. H. Huntsberger, Democracy, O., which incidentally mentions that he had just threshed 42 bushels of wheat per acre from 9 acres, for which, to some extent credit was due the P. F. This is splendid. Only once in all these years have we reached this figure. But we have kept quite close up to it a good many times. It would not be right to close without giving our latest experience, it teaches such a valuable lesson along the line of this article. With a dairy to attend to now, with that the chief source of income, and growing no potatoes on which to put so much tillage, but only sowed crops, and with less time than formerly, plowing is not done as deeply and the land does not get as much tillage. But there is far more manure put on it. Now what is the result? Large, satisfactory crops, but certainly no larger than we used to grow with far less manure and more tillage. Tillage can be made to partly take the place of manure in increasing the available fertility of your farms, good friends.

Health Hints.—A Letter from a "Disgusted" Friend.—About 2 letters in each thousand received are more or less of an uncomplimentary character. Letters from friends who find fault with the teachings of these columns shall have as careful attention as those which are filled with praise only. They are from honest people who mean well, and who have a perfect right to different views, or to careful explanations that may make them understand better the points upon which we disagree. The last letter of this character is from S. J. Garber, Brookville, Ohio. He says he has not missed a line of my writings for eight years, has believed every word and as far as possible, carried out my teachings; that this has been of great value to him; that he has agreed with the "Health Hints" recently, but now he is "disgusted with me for advocating doctrines of incontinency and immorality." (No wonder, if he thinks any such thing has been done. I should be more than disgusted with myself.) The three charges made are, first, that I lie abed a while after waking in the morning. He thinks I should "leap out at once." Second, sleeping without any night shirt on. He asks how it would work if everyone did so. Third, advising people with weak lungs to stand before a mirror, without clothes on, if the room is warm enough, to draw in full, long breaths. Our friend closes by saying he is a lover of the truth and signs his name as, "Yours for thought." Well, on this we will agree exactly. Now let us think a little and try and get at the truth. When anyone can show me that anything I teach is not correct, or can be bettered, I will promptly acknowledge the error, and change and thank them most heartily. But we must have some proof beyond a simple statement of opinion. If there is anything in the world that the writer wants to do, it is to get at the truth and practice and teach the best. Out of his own pocket he recently sent the most noted lung specialist, perhaps, in the U. S. a fee that would pay for the P. F. nearly a lifetime, to get the latest teachings in his line. Among other things he advised the breathing exercise before a mirror, without clothes on.

Incidentally, when writing about how long one should sleep, I said that I felt best to waken slowly in the morning and be a half hour or so about getting fully awake and ready to get up, as I remember. I know this from long experience. The change from sleeping to activity cannot be made instantly with me without harmful results. Perhaps it can be with some. But what busy, active, hard working person has not thought, when they awoke in the morning and had to get up at once, how they would enjoy lying a little longer? Who has not said that the bed felt the best just when they had to get out of it, particularly in cold weather? Now what is the object of living? Certainly it is partly to take comfort yourself as you go along and to help others to do the same. It is not, in my opinion, to work every minute and deny one's self and family a reasonable amount of harmless pleasure. Therefore I go to bed early enough, as a rule, to get my full sleep and have a little time in the morning to doze along and awaken slowly to the cares of this world, now that we are abundantly able to do this way, and also in consideration of my three score years. It does not seem to me to be giving undue attention to pleasure, which is what I suppose is meant by "incontinency." If our good friend prefers to spring out of bed the moment he wakens and rush to his work, let him do so, and kindly allow others to rest a little longer, if they can get the most out of life that way, without being "disgusted" with them.

Now about the "immorality" of sleeping without any night shirt on. All people who pay any attention to the simplest laws of health take off the underclothes worn during the day and put on others at night, hanging up the day garments to air. Now then, when one has the day shirt off ready to put on the night garment, how much more immoral would it be to get right into bed and cover up with the bed clothes, instead of standing out exposed longer to put on a night shirt? And why will it not work the same "if everyone did so." I keep a night gown hanging on the bed post ready to put on if required to leave my room. This is no idle fad of mine. The sanitarium in Europe that has had perhaps the greatest success in curing ailing people requires them to not wear any night clothes whatever. What will help to cure will help to prevent, in this case. The real point in this practice is greater freedom for full natural breathing and less restraint to the circulation. The other "immoral" practice is standing before a mirror without any clothes on to draw full breaths. In the privacy of one's own room I fail entirely to see anything wrong in this, while there is known to be a decided gain. Every physical culture authority in the world will tell you that if the room is warm enough so you can keep comfortable you will gain faster when exercising without clothes and before a glass. The point is, you watch the play of the muscles, expansion of the chest, etc., and the fixing of the mind on these movements sends more blood and strength there. This has been proven by tests invented for the purpose. Then again, the exposure of the bare skin to the air directly, and to the light, is helpful. It is getting a little touch of nature. If you can stand in the sunlight, all the better. This particularly for retired farmers, business men, women and all who do not work out of doors. And let those who do, wear as few and thin clothes as they can and keep comfortable. The writer is trying to lead you all as near to nature and the best possible health and long life as is practicable. In no case does he tell you to follow untried paths of doubtful value. Would it not be well to think and study the best authorities in the world and be sure you are right before utterly condemning his teachings?

T. B. Terry.

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The Cow Pea, for the Farm, the Orchard and the Garden.

[A lecture delivered before the N. C. Farmers' Convention at N. C. College of Agriculture, July 21, 1903, by Prof. W. F. Massey.]

The cow pea has been called "the clover of the South." But it is of far more value than clover in the South, since the Southern farmer, orchardist and truck gardener can do more towards the improvement of his soil with the pea, and can do it in one-fourth the time that the Northern farmer can with clover. It is true that there are sections in this and other Southern States, in the elevated and mountainous portions, where the pea should never supersede clover on the farm. But in all the warm section of the State east of the Blue Ridge we can accomplish more with the pea than we can with clover and can do it, as I have said, in a month or two instead of a year or two. When I came to North Carolina fourteen years ago, after years of experimenting with the pea further North, I was surprised to find how little appreciation there was in the cotton country of the South of the immense value of the pea for the feeding of stock and the improvement of the land. True, there were peas sown, but no systematic sowing as part of a regular crop rotation, and few farmers seemed to realize what could be done with the pea in the development of the productiveness of our Southern soils. I set myself to do all that I could to promote the culture of the cow pea, and to get our farmers impressed with its value. I have reason to believe that my efforts in this direction have not been in vain. The great need of our soils in the South is humus or vegetable decay. Our uplands had in the beginning less humus than the Northern uplands, for in the open forests of the South the winter winds drive the forest leaves into the hollows and bottoms, leaving few to accumulate on the hills, while in the North the snow falls heavily and packs the leaves where they fall to decay. Then, too, the clean culture of cotton year after year on the same soil, exposing it continually to the oxidizing influences of the sun and air, has robbed the soil of humus until it really may be called a dead soil, for the microscopic plant life that abounds in a soil well supplied with humus, and is always preparing plant food, has been starved out. With the loss of the moisture-retaining humus and the scratching of the soil with a little one-mule plow, the soil has tended to wash into gullies to such an extent that it has been found necessary to make checks or terraces to prevent this. Had a different course been pursued and the soil kept supplied with humus, there would never have been any need for the terraces. Everyone knows that when a hillside is newly cleared it does not wash, because of the organic matter and fibrous roots it contains. If, therefore, we would keep up these new-ground conditions by a proper rotation and the growing of legume crops the terraces could be entirely dispensed with. I have farmed hills of the same character of soil as our red clay, in the Piedmont country of Virginia, and never had a terrace and never had a gully formed, but cured old gullies that careless plowing had allowed to form years before. The past spring I had the pleasure of addressing an immense gathering of the farmers of East Tennessee on this subject, and in the discussion of the paper I was met by the astounding statement on the part of one man, that he did not like peas, because they made his land so loose that it washed badly. Of all the silly objections to the pea, this I thought the silliest I had ever heard. While the great majority of the improving farmers did not agree with the objector to the peas, I have since heard that this notion is prevalent in Southern Middle Tennessee. Our Southern uplands have washed for lack of peas, and by reason of the shallow plowing and constant cultivation in hoed crops, and the pea can be made one of the most efficient agents in the checking of the tendency to wash. I can readily understand that where a farmer scratches over a field at mid-summer and sows peas, a summer cloud may cause a wash there before the peas get up enough to hold the soil. But if he plowed the land deeply and subsoiled it well so as to make a loose bed 15 to 18 inches deep, it would take a regular cloudburst to start a wash, and then he would have prepared a fallow for the wheat to follow the peas that would need no plowing in the fall, but could be put in the best possible condition for the wheat crop with the cutaway harrow after the pea crop had been harvested. There used to be a notion, now happily disappearing in the South, that, while a crop rotation was valuable in the North where small grain and grass is the object, the cotton crop was the one crop that would not fit into an improving rotation, and must always be grown in the old systemless manner year after year until the soil refused to produce a crop and was turned out for nature to go to work and build up again. Under this old system the South today would be a howling wilderness but for the broom sedge and the pine tree. Turn out the old field, which men imagine to be worn out (but no land originally fertile and of a good mechanical constitution is ever worn out) and nature starts in at once to cure man's waste. The broom sedge covers the land and with its great roots checks the tendency to wash. In the shadow of the broom sedge the pine seeds, borne on the wind, find a congenial place to start, and in a few years a pine thicket covers the land. The pine has a terrible subsoiler in the shape of a tap root, and it sends this down into the unexhausted soil of virgin fertility that lies right below the scratch of the little mule plow that exhausted the surface. Year after year it pumps up plant food and scatters it to decay on the surface in its fallen leaves, for the pine leaves never blow away. After the lapse of years some man cuts the pines down for firewood, and finds that he has a piece of new ground, fertile and productive, and never a fertilizer man had anything to do with it. Can we not learn a lesson from the old field? We cannot, of course, wait for nature to do all this for us, but we can do just what nature does during the long years she takes, and can do it in a very short time. The broom sedge and the pine leaves have formed the humus in the new ground. They have been a long time about it, but with quickly produced crops and the feeding of live stock and the saving and applying of manure, we can do in a few short years what it has taken nature a lifetime to do, and there is no crop grown in the South that will enable us to restore the new-ground conditions to our soil faster than the cow pea. The great lack in the farming of the cotton belt is not only the one crop, annual cultivating system, but the failure to grow forage and to feed stock. No matter what the money crop of any section may be, the farmer who fails to raise forage and to feed all the live stock his land will carry is not farming right. The growing of forage crops and the feeding of stock lie at the very foundation of all successful farming, no matter what the sale crop may be, whether cotton, tobacco, corn or wheat. If the lands of the South are ever to be restored to their pristine fertility and productiveness it must be through systematic farming, live stock feeding and an entire abandonment of the old one-crop, scratch-plow planting of the past. As a friend in South Carolina remarked to me a few years ago, the main difference between the Carolinas and Texas is that Texas feeds three steers to every bale of cotton she producs, while the Carolinas raise three bales of cotton for every steer they feed, and they will never improve till they get nearer to Texas' ratio.

The great agent in this change will be the production of forage for stock, and the greatest of forage plants we can grow is the cow pea. It cannot only be produced here in the greatest luxuriance, but it has a higher feeding value in its hay than the clover hay has. It will enable the stock feeder to make a perfectly balanced ration with his Indian corn with which to feed beeves and dairy animals. The manure produced from such a ration, too, has a far higher value than the manure from half starved cattle, which often is worth little more than black mould from the forest. Rich manure, abounding in plant food, is only made from rich food, and the Indian corn plant, supplemented with cow peas, makes as rich a food as can be had, and as good manure as is made. Attention has been called to the fact that most of our cotton farmers are without money in the spring for the cropping of the season, and a writer in one of our farm papers some time back proposed the repeal of the six per cent. law to enable farmers to borrow money in the spring. The farmer whose farming obliges him to depend on borrowing money is certainly not farming right. No business can be permanently successful that relies on continual borrowing. The merchant who borrows money for every season's business will soon reach the end of his business, and farming is, or should be, as systematic a business as that of a merchant. But the farmer whose eggs are all in one basket will often be in this impecunious condition. The remedy is not in borrowing annually, but in farming so that he will have cash coming in at all times of the year. The farmer who has provided a plentiful supply of forage and has fed fat beeves and other stock in the winter will have cash money in the spring, and not only cash money, but what is more than cash to the farmer, he will have a supply of manure to help out the humus-making in his soil, and save the purchase of fertilizers for his cotton to a great extent, and what fertilizers he has to buy can be had for the cash far cheaper than the man who is carried by the merchant has to pay. As a way out of slavery to the fertilizer factory there is nothing that can surpass the cow pea.

But there is one practice which experienced men are apt to fall into from reading the statements in the Northern agricultural papers. Years ago the practice known as "green manuring," was enthusiastically advocated in nearly every agricultural paper by theorists who had never turned a furrow nor seen the result of what they advised. I learned, many years ago, from a costly experience, that the plowing under of green crops in the height of summer was likely to damage the soil more than to do it good. But I am frequently asked: "Will not the peas do a great deal more good to the land by plowing them under?" There is no doubt that one can accumulate humus in the soil more rapidly by returning the entire growth to the land, and in the first start in the improvement of an old, worn farm there may be conditions that will make this course advisable. But the plowing under of a crop in the height of summer and while green and sappy, will, in the South at least, sour the land and render it unproductive till sweetened up by lime and cultivation. If it is necessary or advisable to plow under the pea crop, do it in the fall after the vines are dead, and then put some winter cover crop on the land, even if only rye, for our Southern cotton fields lose fertility as fast in the winter rains as in the summer cropping. But when one has his land in a fairly good condition so that he may expect two tons per acre of pea vine hay, it is the worst sort of farm economy to plow the crop under. Ten dollars per ton is a moderate estimate of the feeding value of the pea hay, and when we reflect that in feeding it can recover from one-half to three-fourths of the manurial contents of the hay, while making a profit from the feeding, it is easy to see that it does not pay to use twenty dollars' worth of feed per acre as manure, and it must be an uncommonly profitable crop that will make such an application advisable. Usually it is only on the truck farms that such a use of the pea would be profitable. This brings us to the matter of making the hay which we set so high a value upon. There is nothing attempted on the Southern farms in a more awkward and unbusiness-like manner than the making of hay from the cow pea. You are all familiar with the numberless contrivances that are used, under the impression that the peas are very hard to cure, while the fact is that they are as easy to cure as any hay if one goes about it right. If we have got to go to the trouble some do with their stakes and bushes and scaffolds to cure cow pea hay, we had better abandon it, for if the hay cannot be made in a farmer-like and business-like way it cannot be made profitably. I have been making this hay for many years, and have never failed to make good, sweet hay, with the leaves preserved on it, and it is made in the most simple manner. Last summer I stated that the greater part of my pea hay had been put in the barn the third day after cutting. Very soon I began to get letters saying that the writers had tried putting it in the barn the third day, and that the hay moulded. They seemed to assume that the main point in the curing was the third day, when I had only used this as an illustration how quickly, under favorable conditions, the crop could be housed. But a man with very different conditions in the crop and in the weather, would probably fail with the same treatment I gave. It is the condition of the crop, and the state of the weather that is to be considered, and not any particular time of housing. It may under some conditions be ready to go in the third day, and under other conditions may have to stay out a week or more.

(*Concluded next week.*)

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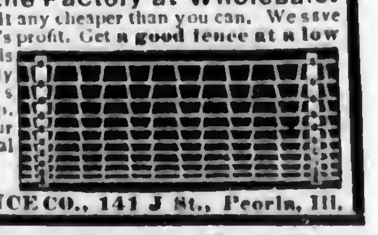

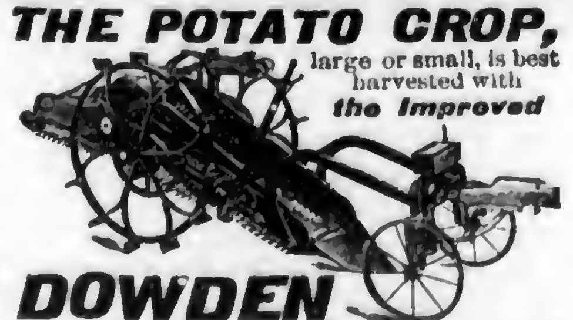

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Success with Fertilizers.

L. A. STOCKWELL.

Twenty-one years ago there were three adjoining farms here, each with fields almost entirely worn out and washed away. In each were large areas deeply gullied and bare as the road from December to December. I bought one of the farms and have brought those worn fields to a high state of fertility; so high, in fact, as to produce the largest yield of wheat and clover seed (41 bushels of the former and 5 of the latter) ever produced in the township. But my neighbors' fields, galled and bare 21 years ago, are galled and bare today, a dead expense, with never a cent of income in all these years. When I bought the farm there were but 55 acres of cleared, tillable land and 43 acres of it were in these four badly worn fields. Their redemption would have been a physical impossibility without the use of commercial fertilizers. There they lay, a terrible eye-sore, and a dead expense. Yet never in all these years since the first three, have I failed to raise crops on them that paid a good profit over expenses, and in a number of years the profits were large. Realizing that I never should have manure enough to cover them, I began to figure on ways to grow a sod, as they were almost destitute of humus. At that time no one here used chemical manure, but I bought some bone dust from Chicago and used it at the rate of 300 pounds per acre on oats and wheat, always sowing clover in the spring. With a manure spreader I top dressed the poorest places with stable manure. This I kept up right along, each year making the land richer and increasing the yields. At first I practiced a two year rotation with either oats and clover or wheat and clover; later I left out the oats and used only wheat followed by clover two years; later I planted some corn; this was followed by wheat one year and clover one year, and sometimes two years. Several times I left the clover lying in the swath and took off only a seed crop, the haulm of which was spread over the places needing it worst. The result of the use of the fertilizer was wonderful, as the application of 300 pounds analyzing 3 per cent. nitrogen, 8 per cent. phosphoric acid and 2 per cent. potash often made all the difference between a good crop on the main field and a total failure on the unfertilized strip always left for comparison. A reference to my books shows that aside from the first crop of wheat and the one in 1900, when every field in the county was totally destroyed by the fly, my average yield has been a little over 27 bushels to the acre, and more than once the clover seed has sold for more than enough to pay for the land. The largest yield of oats I ever grew was 60 bushels to the acre. They were drilled, and 300 pounds of above named fertilizer drilled with them. In 1896 I broke 6 acres of one of the fields for corn, intending to follow with wheat as usual, but a storm blew it down so we could not get through it. The same thing happened the next year, so for three years in succession corn was grown on that field and it averaged 50 bushels per acre. All this was without fertilizer except what was stored by the clover. As space is limited I cannot go into details of each crop, but will take one field as an illustration of what can be done by the use of these fertilizers. In 1893 a corn stubble of six acres was broken for corn. With an eight-hoed wheat drill 300 pounds of the above brand of fertilizer was drilled in and cross harrowed with a Thomas smoothing harrow. The corn was then drilled in with a one-horse corn drill and 200 pounds more of the same fertilizer drilled in with it. Although a very dry year it made 63 bushels to the acre. Early in September one bushel of Fultz wheat to the acre was drilled in the standing corn without fertilizer. The wheat, the finest I ever saw in California, or anywhere else, threshed out 41 bushels to the acre. The intensely hot weather at harvest killed nearly all of the clover in the neighborhood except on that field (upland) and the low bottoms. This proved to me what I had never before believed, viz., that a good stand of clover and a maximum crop of wheat could grow at the same time. The next year I cut a good crop of hay and threshed 18 bushels of clover seed worth $108; next year another hay crop and 12 bushels of seed worth $60, was cut, and next year a hay crop. It was then turned under and a 32-bushel crop of wheat cut in 1898, with an application of only 200 pounds of the fertilizer to the acre. A careful calculation showed that for that 3,000 pounds of fertilizer I realized $287.70 over its cost, counting the excess of my corn and wheat over the average yield of the neighborhood, and counting the clover seed, which, but for the fertilizer, would not have been grown. This was a profit of over 700 per cent. on the investment. My enthusiasm and methods may perhaps be better understood by a question put to my nearest neighbor, and its answer.

"What's Bonedust Stockwell doing?"

"He's going over his wheat ground for the twelfth time that I know of. He's trying to reduce it to road dust."

In my farm practice I have found that not only can worn land be brought to a high state of fertility by an intelligent use of these fertilizers, but that rich land can be made richer. Right now I am selling hundreds of bushels of corn to my neighbors at 75 cents a bushel. At that price enough was produced on some of the acres to more than twice pay for them. Some of these same neighbors hoot at the idea of selling corn, an agricultural sin that I am guilty of; as last year I sold a thousand bushels at a price no feeder here realized by feeding his crop. I value manure as highly as anybody, and no one has made and used more of it than I have. But business is business, and when I can sell my cattle and the hay and corn it would take to winter them and then buy them, or others, back in the spring for a little over half the money I'll do it, and with a fraction of the money replace the lost fertility with commercial fertilizers.

Little by little I have learned "somedings." One is to not place too much reliance upon the manurial value of feeding stuffs. When I was younger I fed bran and oilmeal with a liberal hand, on the strength of the published tables, but after feeding a carload of oilmeal one winter and looking in vain for a large return in the manure, I concluded it was not safe for a Hoosier to feed cattle in carlots expecting to get the same values in the manure obtained by Wolff, or some of those other old fellows who fed a pig or two a hundred years ago. Another is that I have lost hundreds of dollars by using complete fertilizer on grain following clover. Not until I became a reader of the P. F., though, did I learn that an acid phosphate with a little potash would have answered every purpose after the first five years. Another thing from the same source is that a man who has studied his soil and its requirements and knows the needs of the crops he grows, can save from 20 to 40 per cent. on his fertilizer bill by buying his materials and mixing them himself. All he needs is a tight barn floor, a sand screen, a rake and a shovel. If nitrate of soda is used it should not be mixed until a few days before using.

Any liberal-minded manufacturer of fertilizers will sell at retail, nitrate of soda, acid phosphate and muriate of potash. If enough were needed to use it in carlots it could be ordered from the seaboard at a saving of two or three dollars on a ton. These are standard goods and are in the most concentrated form. The advantages of buying them and doing your own mixing, are that the goods are uniform in quality and you know just what you are getting. Then you can combine them according to the needs of your crops and your soil. Or you can leave out any one or two of them as your experience directs. You also save in commissions, bagging and freight. Then the plant food is all available, no hair, old leather, etc., that may not rot until year after next. I have used fertilizers in amounts ranging all the way from 200 to 1,200 pounds per acre. I have used them on corn, oats, wheat, grass, sorghum, cow peas, soy beans, potatoes, melons, strawberries and the garden and always at a profit. With acid phosphate (my soil needs little potash) I can grow cow peas, soy beans and clover seed at a big profit, and at the same time fill the soil with nitrogen enough for bumper crops. I have hauled off cow peas and soy beans that sold for over $100 a load, and clover seed that brought me $300 a load (none for sale now; all closed out last week), and the plants that produced them bored so deeply into the subsoil for the plant food they contained that a man could not pull them up. Talk about subsoil plows and manure spreaders, these are they, and more; my spreader does good work, but these tireless workers spread plant food in and through the soil in a way never dreamed of by the slave of the dung fork. I spoke above of buying nitrate of soda. Now, in buying plant food, as in anything else, a man should watch the market. I once bought cottonseed meal laid down here at $17 a ton; now this was a cheap source of fertility, as it contained, approximately, 7 per cent. of nitrogen, 3 per cent. of phosphoric acid and 2 per cent. of potash. Here was almost half as much nitrogen as a ton of nitrate of soda contained costing $46, and 60 pounds of phosphoric acid and 40 pounds of potash besides. But this nitrogen was not so quickly available, so for best results, some nitrate of soda, the amount governed by the crop, was added, thus giving it a start, ready to use the nitrogen in the cotton seed meal later on. Another thing a man should know is the requirements of the crops he grows and the availability of the plant food he buys. Some plants that have a long period of growth, or that bore deeply into the subsoil, can use a slower acting fertilizer and in some cases a cheaper one, than others that grow quickly or are surface feeders. Of course, it is expected that a man who spends good money for fertilizers will be supplied with up-to-date tools, and grit to use them, well drained land, and a well digested plan of action. He will concentrate his efforts upon some money crop, and make everything tributary thereto. Faber made a fortune and a world wide reputation. He did it by making a better lead pencil than any one else. And if some men whom I know that are hauling colored sawdust and soiled straw from a livery stable three miles, would use a little more they would be better off.

Cow peas and acid phosphate make a grand combination. On my naturally drained limestone clay soil an application of 400 pounds of the one will grow nearly two tons of dry hay of the other. The roots and stubble leave that most expensive of plant foods, nitrogen, in the soil in abundance, while the hay which is relished by all kinds of domestic animals contains 50 per cent. more of that most expensive of stock foods protein, than good hay, and almost 50 per cent. more than is found in an acre of corn, fodder and all. When people understand that they buy bran for the protein it contains, and that cow pea hay is richer in protein than it is, they will begin to realize that the discovery and use of the phosphate rock was the greatest discovery of the age. To sum up, the use of commercial fertilizers makes intensive farming possible, as in no other way can maximum crops be grown. In these days of high priced, and often ne'er to be gotten labor, it is the cheapest manure that can be used. Intelligently used it robs the farm of its worst features, as the never ending labor of feeding animals and hauling out their excrement can be dispensed with and the farm still be kept in a high state of fertility. Relieved of such drudgery the farmer has time to concentrate his energies upon the money crop that experience has taught him is best adapted to his soil and markets. Under these conditions farming becomes the best and most independent business on earth.

Putnam Co., Ind.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Permanent Pasture in Eastern Maryland.—R. N. Stagg, Snow Hill, Md.—"I have 14 acres which I wish to seed down to permanent pasture this fall. Would you advise seeding the grass by itself, or could I get as good a stand by sowing with wheat? Is the poa compressa or Canada blue grass what we call wire grass which grows on sandy land here? If it is like wire grass I would be afraid it might get into the cultivated fields. I have heard that wire grass and Bermuda are about the same." The poa compressa is a true blue grass. It sends out runners as all the poas do to some extent, and forms a dense sod which stands pasturing very well. You have two grasses on the Eastern Shore of Maryland both known there as "wire grass." One of these is the couch or quack grass of the North, and the other is the true Bermuda. I have seen both running together on the Eastern Shore. The quack grass makes a head something similar to the rye grass, while the Bermuda makes a head like the delicate spokes of a little wheel, and rarely seeds much in your section. The quack grass is much coarser than Bermuda and its sharp runners will strike straight through a potato in the ground, but the runners of the Bermuda are more delicate. The Bermuda makes a fine summer pasture, and further South is the most valuable of all pasture grasses. You are a little far North for it to be at its best, but in your sandy soils it ought to have considerable value. The Canada blue grass suits better a flat clay soil, though it will grow fairly well on the sandy lands. You can get a stand better by liberal sowing without a grain crop, but you can also seed with wheat and have fair success and have the wheat to pay expenses. Liberal seeding of a mixture of grass is far better than seeding with but one sort.

Soluble and Insoluble Phosphates.—David Kuehn, Allentown, Pa. — "If a farmer uses the dissolved S. C. rock phosphate liberally will the sulphuric acid injure the soil in the course of time? Some now say that the simple pulverized rock is just as good as the dissolved." Whatever of free sulphuric acid there may be in the acid phosphate will at once combine with some base in the soil and form a neutral salt. With lime in the soil it will form sulphate of lime, or plaster, which will certainly do no harm. Recent experiments have shown that the phosphoric acid in the pulverized rock, though classed as insoluble, does finally become dissolved in the soil and feeds the plants. For immediate effect the dissolved rock is best, while for more permanent effect on a sod for instance, it may pay to use the pulverized rock if it can be had cheap.

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Feeding Silage to Beef Cattle.—Part 1.

PROF. A. M. SOULE.

There seems to be an unusual interest in the feeding of silage at the present time judging from what has recently been said on this subject in the columns of the agricultural press. The Middle South is essentially a forage crop country, as all who are familiar with the conditions prevailing therein will admit. This does not mean that pasture and hay cannot be had. In favored sections blue grass grows luxuriantly; in the balance of the territory Bermuda grass takes its place and is equally effective, producing more beef per acre according to conservative estimates, than blue grass. Good hay can also be had in the South from mixtures of orchard grass, tall oat grass, meadow fescue and red or alsike clover, and there will be much more grown once the adaptability of these grasses and clovers to a Southern soil and climate is generally recognized. While this is true, it does not affect the statement that the Middle South is essentially a forage country; hence one of the questions of vital importance to our people is to determine, not only the best forage crops to produce, but the most economic methods of preserving the same for utilization as food. So it is not surprising to find the subject of silage one of general interest at the present time. This is due not only to its value as a food, but to the fact that the crop can be housed in a small space at a favorable season of the year, as silage is generally made in the latter part of August or the early part of September. Where a silo is not used corn and sorghum must be put in large shocks in the field and even then it is hard to cure the latter so it can be packed away in the barn unless the sheaves are set on end. It would thus require a very large space to house the crop, and in the meantime it would be exposed to a great deal of rain, which lessens its feeding value. Leguminous crops, as the cow pea and soy bean, must be housed as soon as possible in order to preserve them; so where these legumes can be grown in conjunction with sorghum and corn and put in the silo a well balanced food can be obtained and preserved with the least cost and effort, and if properly done, in the best possible condition for feeding.

Much attention has been given to this subject at the Tennessee Station during recent years, because it has been clearly recognized how vitally important the proper cultivation and preservation of these crops becomes to the cattle interests of the country. In fact, it has long been held that cattle could not be successfully winter-fed in the South and only a comparatively few converts have as yet been made. It is pleasant to record that substantial progress is being made along these lines, so that at no distant date winter feeding of beef cattle will be an important industry.

Some of the results obtained in previous trials at this Station will prove of interest as summarized below:

No. cattle	Time fed days	Roughage	Concentrates	Total gain	Gain per day
15	120	Corn stover and pea hay	Cottonseed meal and corn meal	2255	1.27
15	120	Silage and pea hay		3016	1.75

These gains are satisfactory, and show what may be accomplished with native stockers at home when fed on the grain and roughness that should be available on every Southern farm. Other lots fed on succulent rations also made good gains as compared with those receiving a dry ration.

Days fed	Character of ration	Gain per day—lbs.
120	Corn meal and cottonseed meal, sorghum silage	2.1
120	Corn meal, cottonseed meal, cow pea hay and corn silage	1.9
120	Corn meal, cottonseed meal, shredded corn stover	1.1
120	Corn meal, cottonseed meal, cow pea hay and shredded corn stover	1.2

These experiments indicate the value of silage from sorghum and corn in feeding beef cattle. The profit from feeding these native cattle has varied from $5.47 to $9.38 per head, when they were sold in a local market at lower prices than prevailed in Chicago. The feeding of beef cattle means the saving of a fertilizer bill and the improvement of the farmer's lands, so that if only the manure were clear, it would pay him to feed cattle. But he can make a fair profit beyond that, and it will materially increase as the quality of the stock improves. The cost of a pound of gain depends largely on the market price of food-stuffs. At high prices for Tennessee conditions the stover-fed cattle made a pound of gain for 6.02 cents; at low prices for 4.97 cents. The silage fed cattle made a pound of gain for 5.82 and 4.57 cents respectively. The stover-fed cattle consumed 6.02 pounds of concentrates for a pound of gain, and the silage-fed 4.52 pounds. When slaughtered, the silage-fed cattle dressed 56.4 per cent. and the dry fed 55.4 per cent..

It has been clearly shown that large yields of silage can bo obtained in the South and that it can be made at a very reasonable cost and so it is not necessary to discuss this phase of the feeding problem. At the present time a large per cent. of the cattle grown in the Middle South are sold in the autumn as long yearlings, because of the general belief that they cannot be profitably winter fed, and it was for the purpose of determining whether these cattle can be stall fed or whether they should be maintained as stockers through the winter to be finished on grass, or whether it would be more advisable for the farmer to sell them in the fall that the investigations, results of which are recorded below, were undertaken. The results presented only cover one year's work, and the following resume is published because it contains information which should be very useful to the farmers generally, as it warrants the conclusion that silage is a very valuable roughness if judiciously fed to beef cattle. It is proposed to repeat these experiments during the winters of 1903-4-5, so that the average of three years' trials may be had, and then it would seem that final conclusions might be drawn from the work. During the past winter 32 head of cattle were divided into eight groups of four each and fed 150 days. Sixteen of these cattle received a moderate grain ration and were fed silage as a roughness, the object being to finish them as nearly as possible for the spring market. The other sixteen were fed a limited grain ration along with different forms of roughness, the idea being to run them through the winter as cheaply as possible and finish them on grass the following spring and summer. Group 11, receiving silage, cottonseed meal and corn and cob meal, made an average gain of 2.40 pounds per day, or 1,442 pounds for the period. Group 12, receiving silage and cottonseed meal, gained 2.15 pounds per day, or 1,287 pounds for the period. Group 13, receiving silage, cottonseed meal, corn and cob meal and clover hay, gained 2.18 pounds per day, or 1,305 pounds for the period. Group 14, receiving silage, cottonseed meal and clover hay, gained 2.19 pounds per day, or 1,313 pounds for the whole period. The cottonseed meal and corn and cob meal were fed in the early part of the period in the ratio of 2 to 1, the proportions being reversed toward the close of the experiment. An average of about 10 pounds of meal were consumed per head per day, and between 35 and 40 pounds of silage. Not over 12 pounds of cottonseed meal were consumed at any time by group 12, the average ranging close to 10 pounds, though these animals were fed at one time as much as 12 pounds per head per day. This a little more than they could consume to the best advantage and it would have probably been better if not more than 10 pounds had been used at any time. These animals were in good condition, and, as the reader will observe, made an excellent gain throughout the period, which is the best answer to those who doubt the feeding value of cottonseed meal or who say it cannot be fed. The trouble is not so much with the cottonseed meal as with the method of feeding the same.

Tennessee Experiment Station.

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Corn for Calves.

I. H. WATT.

My experience in raising calves extends over 15 years. Of course, everyone knows how to feed calves, but many do not know just what is best to feed. Ask me and I will say "shelled corn." "When do you begin?" I begin when the calf is 3 days old. Feed it just a few kernels at first and gradually increase to a pint by the time the calf is 6 weeks old. They chew it all up. I never knew a calf to pass a whole grain. I never feed a calf more than 2 quarts of milk at a feeding. If I am raising calves for milkers I do not feed them enough to make them fat. I have experimented with all manner of ground foods, but none of them equal shelled corn. My calves' hair is sleek and glossy; are growing rapidly; they run and frisk about and are always ready to eat corn. My neighbor who persists in feeding his calves all the milk they can drink, besides a couple of quarts of ground feed, has funny looking calves. They are little, pot gutted things; hair standing on end. They have the scours nearly all the time; lie around half asleep. I wouldn't trade one of mine for a dozen of his. In short, if you want good calves feed them corn; if you want poor, worthless animals feed them something else.

Nebraska.

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The Angora a Benefactor.

At the request of Secretary F. D. Coburn of the Kansas Board of Agriculture, Mr. R. C. Johnston, of Lawrence, read an interesting paper before the late annual meeting of the Board, on the subject of Angora goats. Mr. Johnston is well qualified to intelligently write of these animals, as he has been breeding and handing Angoras quite extensively for some years. He has sublime faith in their ability to adapt themselves to varied conditions, and to do much toward transforming otherwise waste places into profitable areas. He says in part: "The Angora grows to the same size as sheep, but does not mature so rapidly. A six-months-old lamb will weigh more than a kid of the same age with equal care; therefore the goat is not as good to raise for the early market; but this is more than offset by the fact that it carries its lamb or soft joint longer than a lamb does, and its life is so much longer than that of a sheep. It is a prolific breeder and a productive shearer until twelve and fourteen years old. It lives and thrives in any climate or country where sheep live and prosper, no matter how hot or cold. It readily adapts itself to the surrounding conditions, from the rich valley to rugged mountain wastes. All the shelter it needs in this climate is an open shed, facing the south, which it can go under to protect itself from the cold rains and snow of our winters. The rain or snow freezes on its long, silky hair, and forms a mass of ice which chills the goat. Keep it dry, especially after shearing, and it will stand any amount of cold weather. They feed and do well during the winter on corn fodder, straw, and coarse hay, with a littlo

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grain during March and the first of April, to strengthen them for the kidding season of May. A goat abhors filth and dirt. While they eat every kind of food, it must be sweet and clean, with fresh, pure water to drink. They will only drink dirty, stagnant water when compelled to by extreme thirst.

"It is not best to have your does kid too early in the spring, as the kids are liable to chill and die during cold, wet weather, and the does do not milk so well, and are more liable to disown their kids. Better wait until May, warm weather and plenty of grass. They require the same care and attention during the kidding season as sheep during the lambing season. The high grades and pure breds are more prolific than sheep, raising 90 to 110 per cent. increase. They are very hardy, having lots of sense, are good rustlers, and will not starve if there is anything in the neighborhood to eat. They seem just as happy gnawing the bark off a dogwood sapling as barking your choicest apple tree. They feed in flocks and do not scatter over the pasture like sheep. When alarmed, they will bunch together to defend themselves. They are browsers, not grazers, and prefer weeds and brush to grass. They eat the leaves off every tree and brush that grows in Kansas, and, not content with the leaves, they want bark also. They eat every weed that I know of, except mullein and burdock. They seem 'tickled to death' when they strike a patch of jimson weed, and are perfectly happy in a bunch of smart weed. They watch and patiently wait for the thistle to put forth its bloom, so that they can enjoy that rare morsel. Buckbrush, which is destroying so many of our fine pastures, is their delight; in fact, goats are ideal brush exterminators; they do it at a cash profit instead of a costly outlay. One writer speaks of them as 'picking gold off the bushes.'

"They are always sure of a good living, for no matter how dry or wet a season may be, it always produces weeds. They will condescend to eat grass when there are no weeds or brush in sight. After the frost has killed the weeds and leaves, they feed during the winter, as long as it is not covered with snow, on the blue grass which grew undisturbed under their feet during the summer. Horses, cattle and sheep will feed after goats in the same pasture, while goats will feed on that which other animals will not touch. One need not sell any of the stock already owned to make room for the Angora goat; the farm is able to take care of that much more stock, and render that much greater income. They are a vegetable scavenger. Hence their value in farm economy, in converting into money the weeds and brush which the farmer every year spends time, labor and money to get rid of, at the season of the year when time is most valuable. This makes the cost of raising the Angora almost nothing.

"They make the richest fertilizer from the foliage and deposit it on the highest and poorest spots of the farm, while horses and cattle fertilizer the richest part, where the grass grows.

"Thus, we find the Angora goat reclaiming thousands of acres of waste land in every State in the Union and converting them into tillable fields or productive pastures, at the same time making millions of pounds of wholesome meat to feed, and millions of pounds of fine mohair to clothe the people. Being a very hardy, self-reliant animal, and a browser, one will soon find his hilly and rough districts, which are today of no value whatever to any other industry, filled with this useful animal. They are comparatively free from diseases. A sheep fence will hold them. They are shorn in the spring, at the same time and in the same manner as sheep, but be careful to keep them out of a cold rain for a week or two after shearing. The fleece of mohair weighs from two and one-half to four pounds on average good goats, while extra fine, pure bred goats will often shear eight or ten pounds, worth from thirty to forty-five cents a pound on the market, according to the grade and care in handling. The skin of a high-grade Angora has double the value of a sheep's pelt, because of the furs, rugs and kid leather robes manufactured from them, while the skins of the lower grades sell at about the same price as pelts.

"The Angora does are not as good milkers as the Maltese and Swiss goats, but they give plenty for rearing their young. They are kind and watchful mothers, and will fight for their kids. These goats are profitable animals in the feed lot; give them like conditions and the same grain, and they will take on flesh very rapidly, and fatten in one-fourth less time than sheep. They respond very quickly to good care. At the final test of all domestic animals, the butcher's block, the Angora is not found wanting. Their flesh in summer, when browsing, has a very delightful flavor, between venison and mutton, which gives the name 'venison' to their meat. In winter, when fattened on grain, it loses that flavor, but acquires a mutton flavor. It has none of that 'wooly' taste of mutton which is so objectionable to many people. Thousands of them are killed in our packing houses and sold as 'well dressed mutton.' Only an expert can tell the difference, as their carcasses appear the same when hanging in the market. They will dress out a larger per cent. of meat than sheep; hence are much more valuable, and their meat is more juicy than mutton and finer flavor."

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Stock Queries.

Drying up a Heifer.—I have a young cow that was fresh last November. I wish to put her dry for beef this fall. How can this be done? What is best to do with sapling clover on wheat stubble that is now blooming. J. A. W.
R 1, Staunton, Va.

(Reply by Prof. A. M. Soule.)

If the heifer in question is giving a large flow of milk at the present time, it will be somewhat difficult to dry her up without injuring her udder. Put her on dry feed, however, and reduce the amount of concentrates being fed, especially if oats and bran. In fact, it would be advisable if she does not fall away too much, to cut off the concentrates entirely for the time being. The dry feed will tend to reduce the milk flow and then by milking at first once a day and after a few days every other day and then every third day, you can soon succeed in drying her up without injuring the udder. The udder should be watched very closely to see if it does not inflame or cake, and as often as it seems to fill up with milk it should be withdrawn to prevent inflammation. Sapling clover on wheat stubble that is now in bloom might be pastured to advantage with almost any kind of stock, and there is no reason why it should not be cut and cured for hay.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Blind Teats.—I had a 2-year-old heifer drop a calf 3 days ago; gives milk out of 2 teats only (the back ones) the front teats have never had a drop of milk in them. Do you think she will always be this way?
Salisbury, Md. C. W. LAYFIELD.

If you find that there is no milk in the two quarters of the udder from teats of which no milk can be extracted, it is improbable that the heifer will ever give milk from these quarters. If, however, there is milk in the quarters the teats are evidently obstructed by some growth or substance that might perhaps be gotten rid of by passing in a clean milking tube and if necessary using a teat bistoury. It is dangerous work to do this when heifer has been in milk some time, and it would therefore be wise to entrust the work to a qualified veterinarian.

Indigestion.—Would like to know what is the matter with my horse. He turns his head around and looks at his sides; groans while standing idle and at passage of manure; bowels are loose; is very weak and sluggish; has good appetite; has sore eyes. He is fed oats in the straw and is given well water. Has been fed rye straw and corn until two weeks ago. E. R. LARSEN.
Victoria, Mo.

Pain is evidently present as evidenced by looking around at sides, and more care will have to be taken in feeding. Give him a pint of raw linseed oil and repeat in ten days. Change food to bran mashes for a couple of days after giving the oil, then feed New Orleans molasses with his cut food as advised in a recent issue. Have his teeth put in order if found sharp and irregular.

"Creeps." — We have a nice 2-year-old heifer that began to show lameness in her forefeet about the first of June. She would be very lame for a few days and could scarcely walk, then she would seem better for a while. Lately she has been much worse; can scarcely walk, and gets down on her knees to eat grass. G. W. STEVENSON.
Friendswood, Tex.

Lameness is probably due to founder unless ergot is common in pasture grass so as to cause lameness and sloughing off of skin, etc., around ankles. Place her in a box stall and feed soft food and green grass. Give a tablespoonful of powdered alum three times daily every other day for a few days in water. If sores are found between toes, saturate oakum with Chloro-Naptholeum and bind on the part.

Chronic Cough.—I have a mare that has a bad cough. When she gets through coughing she breathes heavy for a while and then she breathes naturally until she takes a coughing spell again. J. J. MOLAN.
Hicksville, Ohio.

Chronic cough of this sort is often met with following an attack of so-called distemper, and is doubtless due to some unnatural thickening or subacute inflammation of the mucous lining of the larynx and throat. Clip hair from throat from ear to ear and blister with a mixture of one drachm each of powdered cantharides and biniodide of mercury rubbed in for 15 minutes and washed off in two days; then apply lard daily. Wet all food and see that it is free from mould. Give glyco-heroin three times daily commencing with half an ounce at a dose and increasing each dose one drachm until cough ceases.

Goitre. — Two-month-old colt has large tonsils at base of tongue, which show largely on outside. Can they be removed? If so, give method. R. W. S.
R. R. 2, Mantua Sta., Ohio.

Feed colt well, avoid hard drinking water. Clip hair from parts and rub every other day with equal parts of lard and iodine ointment. If this does not avail give half an ounce each of cod liver oil and dried blood meal twice daily in milk.

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trial. Let you test it—see for yourself the saving it makes. If not satisfactory send it back—we pay all costs. Catalogue free.
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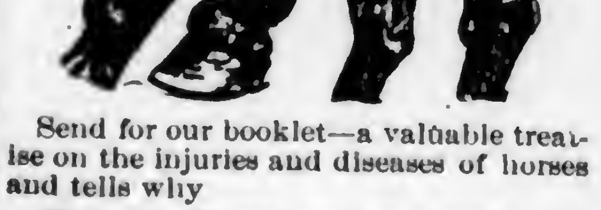

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

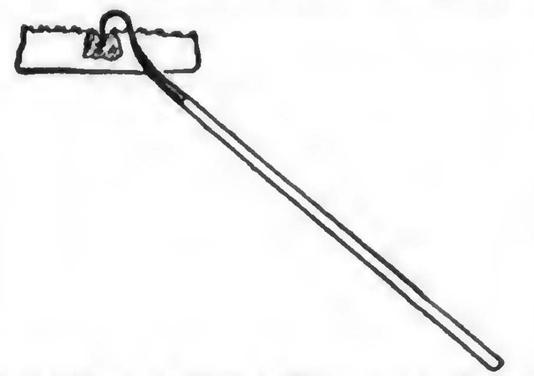
Talks on Timely Topics.

Dry Weather Planting.—Thus far we have had no occasion to talk about "dry weather planting." Here we have been having frequent and abundant rains, and very little need to resort to artificial water applications. And yet in the hot weather of August and September, it only requires a few days' time to dry out the surface of the soil and make the sprouting of seeds, or the re-rooting of newly set plants uncertain or risky. My old rule in such cases was to sow or plant in freshly stirred soil, to pack this soil well by tramping, etc., and then to leave the surface an inch or two deep, loose, by giving it a final light hoeing or raking over. For such things as celery, I have usually tried to provide a little shade for a few days after planting, by means of boards or litter. Mulching during hot weather ("carpeting the garden") is always a good practice. These means will answer under ordinary conditions in desperate cases, *i. e.*, when the soil after a long rainless spell has become very dry, the plan of opening drills several inches deep (after the ground has been thoroughly prepared) and pouring water into the drill its entire length, will probably be found useful. The seed may then be sowed on the moist bed, and covered with fine dry soil.

Home Supply of Celery.—If home growers knew how easy a full supply of celery can be grown, so many farmers' tables would not be without it. We can have it in greatest abundance and greatest perfection from the open ground all through August, September, October and November—and this without much effort and expense. Of course, it needs a little spot of very rich soil; but in what home garden can't you find it? It needs a supply of plants ready for setting out in June or July. But they are easily grown or may be bought from a plantsman or possibly a neighbor. I grow my own, and do it easily. Golden Self-Blanching and Rose Ribbed Paris are the kinds we want for our supply from open ground; Pascal, Evans' Triumph or Winter Queen for winter storage The Self-Blanching sorts are more easily produced and brought to table condition than the others, and the novice should always try his hand first on them. Plants should not be too large when transplanted. I prefer them rather small, with good roots. They seem to stand the operation better than overgrown or older plants. Celery needs plenty of water. It is benefited by irrigation, even in ordinary times, between rains. The home grower, with say 200 or 250 plants, which would give him a full supply for the season, and which occupy only a hundred feet, or little more, of row, if planted in single row, or half that much if planted in a double row (the rows 8 inches or so apart), can well afford to give an occasional thorough watering, preferably with liquid dipped up from the barnyard, or perhaps with the washing suds from the kitchen on wash days. The two hundred full grown celery plants, as we grow them for the house on this plan, represent a retail value of nearly or fully $10. We can give them, while growing, a thorough soaking with such liquids inside of half an hour, and the aggregate time consumed in irrigating our celery in the home garden (which is only a few rods distant from kitchen door and barnyard) amounts only to two or three hours for the season, and what a lot of table enjoyment we have in return for it. The time consumed in hoeing and weeding is not worth mentioning, and some old boards are lying about on almost any farm, and are easily and quickly adjusted for the purpose of blanching the celery. Let us all have celery and plenty of it. It is worth all the little trouble it makes to produce it.

Moles are Friends.—In our own soil moles seldom molest us. In fact, they are scarce, and often entirely absent. Yet I often receive letters from subscribers complaining about the damage done by moles, and asking how to destroy them. I have had my share of experience with this little animal years ago, and confess that it can make itself at times a big nuisance. And yet, on the whole, the mole is a friend rather than an enemy. It devours a lot of white grubs and cutworms, besides the more harmless angle worm, and has never been known to subsist on vegetable food. Prof. Garman, of the Kentucky Experiment Station, says: "Some years ago I had moles gathered from various situations, and made a careful microscopic study of the contents of their stomachs. Vegetable fragments were found, but no corn, and it was concluded that the fragments present were taken accidentally while the moles were eating worms and insects. Since then, moles have been kept by me in boxes of earth, where they could get no food except corn, and in no case was a single grain eaten. Still moles sometimes lift up and thus kill young plants, and mar the beauty of lawns. It is my opinion, though, based upon a good deal of observation on forage plant plats here at the Station, that the good they do more than counterbalances the mischief resulting from heaving up the soil. They are always most abundant where grubs and worms are most common, and desert such land as soon as food of this sort becomes scarce. Their presence in exceptional numbers is the best circumstantial evidence that land is badly infested with grubs or worms, or both, and my advice is, let the moles alone." And this review and advice I most earnestly endorse. Kill them if you must, merely in an emergency, but not on general principles.

A Serviceable Garden Hoe.—A contributor to the Short Cuts Department, E. D. Jewett, Clarksville, Ark., sends me a sketch of a hoe, something like what is shown in accompanying illustration, and says it is the handiest tool in his garden next to the hand cultivator. It is made by cutting a piece out of an old discarded cross-cut saw, two inches wide by ten inches long, for the blade of the hoe. Have the blacksmith rivet this on a shank of ⅝-inch soft iron so that it can be bent to suit. Sharpen the blade on upper side, ends and front. This is light and rapid, and the sharp ends come in just right to use for weeding among onions, etc. A similar hoe has been described and recommended in these columns before, I believe. I first saw this hoe in use in the celery fields near Mount Morris, N. Y. It was made by riveting a section of an old cross-cut saw, of full width, and about 18 inches long, on the blade of an old common hoe. Where celery is grown in sandy or mucky soils, and blanched by means of earthing up, such hoes are extremely handy in moving the soil from between the celery rows up close to the plants from each side. In the Mount Morris fields, two men, each with one of these hoes, would work together on the same row, one standing on one side, the other on the other side the row, facing one another, so that the soil could be drawn up simultaneously from both sides towards the row. This operation takes the place of what used to be known as "handling" the celery, *i. e.*, packing soil around each plant, from both sides of the row, for the purpose of holding all the stalks of the plant upright and compact. With hoes, as described, the object is accomplished in a small fraction of the time that the old style handling required. Even if I have nothing but a common hoe, however, I do not resort to this old method of handling each plant singly, but simply pull the soil up to the rows with the hoe, from each side. It is just as good, and much more quickly done.



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Current Comments.

Lettuce Rot.—Egyptian Winter Onion.—J. W. Nicodemus, Newcomerstown, O., writes: "I have read your article in the P. F. about Mr. Shisler's lettuce house in Beach City; paid him and Mr. Demuth of Canal Dover a visit this spring, and had quite a talk with both about lettuce growing. Both men use soft water for sprinkling, and claim that is the reason for not having rot. Neither has changed the soil in his houses. I use city water, and change dirt every year, yet I cannot raise lettuce worth anything. I am building three new greenhouses 21x120 feet. Had I better build a cistern and take the water from my greenhouses, and pump the water into a 130-barrel tank, which I have, also have an 8-foot windmill to do the work? All expense I will be to is to build cistern, which I will do myself. Would bottom heat be advisable for lettuce? We have two boilers and only going to use one to heat with steam. Could take the other boiler and use hot water underneath. Please tell me how to plant Egyptian onion sets to get long white stocks as you see in market. How thickly do you plant them?" Lettuce rot is as notional as anything else. Sometimes plants will remain healthy when all conditions seem to favor the development of rot; and then again the rot will attack the plants no matter how carefully you try to keep it off. Some time our Ohio friends may awake to the fact that lettuce diseases will attack and possibly ruin a lettuce crop even if nothing but soft water is used in the houses. I do not consider it a sure preventive of lettuce rot, nor city hydrant water responsible for the trouble in the inquirer's case. In all probability it is the mode of application rather than the difference in the water. Lettuce diseases are usually brought on by violent changes in temperature and conditions, as, for instance, bright sunshine which gives high heat, after a long period of cloudy weather and low temperature; or excess of moisture with low temperature, etc. Try subirrigation. Plant sets of the winter onion in August, several inches apart and rather deeply, hilling up towards spring, rather than drawing the soil away from the plants as you would from other onions.

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Points and Pickings.

If Nothing Else, grow rape for fowls. It is better than a garden full of weeds.

Pickle Raisers.—One of our readers desires to have the addresses of people who raise pickles for the Heinz Co. Who will reply?

The Stumps of early cabbages, after the head is cut off, often produce a number of small heads. Cut off all but one, and grow another good head on the same old stump.

The Late Cabbage crop in New York and Pennsylvania will be rather short. Ohio and New England States may have an average crop. In some of the Western States the crop will probably be late, but is promising.

Big Profits in Florida Celery.—A Florida celery grower, H. H. Chappell, in Orange county, figures out that he harvested from one-quarter acre 405 crates of celery, which brought him $738.47. From three acres he gathered 3,065 crates which brought him $6,122.79. Some portions of the patch yielded at the rate of over $3,000 per acre. Quite a respectable showing for a small crop!

Paint Without Oil.

Cuts Down the Cost of Paint Seventy-Five Per Cent—A Free Trial Package is Mailed to Everyone Who Writes.

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it Powdrpaint. It comes to the farmer a dry powder and all that is required is cold water to make a paint weather proof, fire proof and as durable as oil paint. It adheres to any surface, wood, stone, brick and plaster, spreads and looks like oil paint and costs about one-fourth what the farmer has heretofore had to pay for paint.

Write to Mr. A. L. Rice, 376 North St., Adams, N. Y., giving the name of the dealer from whom you buy your paints. Mr. Rice will send you a free trial of his new discovery, also color card and full information showing you how you can save a good many dollars. Write today.

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Nitrate of Soda for Grass. Send your name on Post card for our Free Bulletin. William S. Myers, Director. 12 John Street, New York City.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Insect and Fungus Pests.

The inquiries looking for information as to the cause of injuries to trees which are being received continually, show how widespread is the injury which insects and fungi are causing to fruit growers, and how little knowledge of the causes and how to prevent them are understood by those who are troubled. Many nurserymen have found it to save time in correspondence to have printed slips relating to injurious insects and fungi, giving remedies for the most prominent of the evils mentioned, which they mail to those inquiring of them concerning such things; and in addition, the same information is inserted in their catalogues. What has been said before and is repeated, is, that whoever has an orchard must arrange for the systematic spraying of his trees, just as he should do for cultivating the ground, feeding it, the pruning of the branches, and other parts of the business which are now looked on as necessary annual work. Spraying calendars and general information as to what to use, how to make it, and describing many of the diseases of trees, can be had of nearly all dealers in spraying outfits and of many seedsmen who sell the necessary materials and mixtures. Besides these sources there are the various agricultural experiment Stations, in the way of which every State is represented. And to cover all there is the U. S. Dept. of Agriculture, the officials of which are always ready to answer all questions relating to their department. In addition to this there are pamphlets and books on all the matters spoken of, which can be bought at very small cost; and to have such a reference book in the house is what every fruit grower should desire. It is really one's own fault if he loses his trees from blights or bugs in times like these, when nearly all the ills of trees are preventable, and the information how to prevent and how to combat the evils are to be had for a trifle.

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And other Insects can be Controlled by Using GOOD'S
Caustic Potash Whale-Oil Soap No. 3.
It also prevents Curl Leaf. Endorsed by Entomologists. This soap is a Fertilizer as well as Insecticide. 50-lb. Kegs, $2.50; 100-lb. Kegs, $4.50; Half Barrel, 270 lbs, 3½c. per lb.; Barrel, 425 lbs., 3¼c. Large quantities, Special Rates. Send for Circulars.
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Cuts a track 5 ft. wide, 1 ft. deep. Death to bushes, witch grass. Kills any bush, grass, rose or plant that grows. Can plow a newly cut forest, stump, or bog land, leave the land true and clean for grain or any crop.
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Moves 15000 tons of earth a day.
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Will smooth an acre as true as a mill pond in twenty minutes.
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Hardy Passion Flower.

A reader of the P. F. asks if the passion flower seen in the gardens of Philadelphia is the same as the one hardy in the South of England, which, as a boy, 40 years ago, he saw climbing up cottage walls there. It is probably not the same. The one he saw and describes is called Passiflora Carulea, and is a native of Brazil, hardy in England, but not in this country. The one he has seen in Philadelphia gardens is a native sort, called Incarnata, and is a native of our Southern States, from Virginia southward. This is the one so common in many parts of the South, where the fruit of it is called may-pops. It is with us not what is called a woody vine; it dies to the ground in autumn, sending up strong shoots in spring, which flower profusely in summer, and attracts great interest then. In the South, there is cultivated one called Passiflora Edulis, the fruit of which is prized as a delicacy by many. It is to be found sparingly in the markets in the far South, under the name of granadilla. The fruit is as large as a goose egg, of a purplish color. As is well understood, the passion flower takes its name from the fancied resemblance of the flowers to the passion of Christ, being so named by the early Catholic missionaries to South Africa; the crown of thorns, nails, hammer, cords, etc., all being supposed to be represented in the flower. Those who may wish to grow a variety of this flower should obtain the Incarnata. If north of Philadelphia, when winter comes, cover the plant under a good heap of leaves, sawdust, manure or like material, to keep out the frost, as severe freezings are apt to injure the roots.

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Horticultural Queries.

Raspberries and Strawberries.—I am in fruit growing quite extensively, and this year my raspberries failed to be what they should. They were not heavily loaded, and the berries were extremely large and beautiful, but the leaves have turned a yellow color. Do you think it advisable to spray the bushes, and what with? Give your opinion on cultivating ground for strawberries in the spring to give a good crop. LEVI SMITH.
Watford, Ont., Can.

Without more information it is not possible to say what may cause the raspberry leaves to turn yellow. Probably some insect, spider or aphis. It may be some fungus. It is presumed the canes are healthy, as you say nothing to the contrary. If you find insects on the leaves and would mail a sample leaf to me, I could say what to do for it. Ground already in some cultivated crop is good for setting strawberries in in spring. Continue cultivating the ground from the time spring opens until the fruit sets, stirring the ground lightly, to keep down weeds.

Worms on Grape Vine.—I send you a leaf from my grape vines, with worms thereon. Do you know anything about this pest? It appeared here for the first time last summer. The worms begin to feed on the outer edge of the leaf and eat as long as there is any green left, then go to another leaf and eat as long as there is a leaf on the vine. They killed a large vine last year, which the year before bore four bushels of grapes.
MRS. JOHN G. BENNER.
North Rochester, Mass.

The specimens came to hand safely. The worms are not unlike those of the tent caterpillar. Whichever kind they are, you can readily rid your vines of them by spraying with Paris green. As you know Paris green is poisonous, and must not be used where it may be unsafe. The fruit must be quite green yet, and the little poison sufficient to kill the worms will have disappeared long before the grapes are ripe. Hellebore, used dry or in water, will also kill the worms; and this is also poisonous.

Setting out Dewberries.—I desire to set out a half acre of dewberry plants. Is it the autumn or the springtime that is the proper season to set out the plants to secure best results? "PRACTICAL."
Roxbury, Mass.

If you set the plants early, say early October, so they would get well settled before winter came it would be better than spring, especially if you could mulch them with straw, manure or similar material. When set late, and not mulched, frost is apt to throw them out of the ground in winter. I cannot agree with you that, as the nurseryman has plants to sell, he would "naturally recommend fall planting." Aside from morals, which let us hope he has a fair share of, it would be against his business interest to deceive you.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Fresh Eggs Guaranteed.—The Dairymen's Association in the vicinity of Kehl, in Northern Germany, as reported by the U. S. Consul, has adopted the following method of insuring the freshness of eggs: Its agents go among the farmers each day and purchase the eggs, the farmer guaranteeing that they have been laid within the past 24 hours. The Association, in consequence of this guarantee, is enabled to pay the farmer about 6 cents per dozen above market price. The Association makes a record of each purchase by giving the farmer a registered number, and numbering each egg in a corresponding manner. If by chance any consumer should find a stale egg, he returns it to the dealer, who in turn charges it to the Association, which has recourse to the farmer. The plan has met with general favor and success.

Raising Little Chicks.—The best results, says Country Life in America, that we have ever had in raising little chickens were had when we fed wheat bread soaked in skimmilk—squeezed dry and fed crumbled—for the first day or two. For the next few days this was supplemented with fine cracked grain, principally wheat and oat meal. I believe that a large variety of seeds and fine grain is an advantage. They can be purchased in quantities of poultry supply houses and a mixture made to suit conditions. Several combinations of these grains are upon the market which we have found very valuable. We have had well-grounded suspicions that a good deal more grit is often put into these foods than is really necessary. All grain should be fed in a litter of chaff, where the chickens will have to scratch for it, if they are confined. This should form the first and the last feeding of the day. During the day they should be given what they will eat up clean of soft food, which should be dry and crumbly. After four weeks this soft food may be fed quite liberally.

Poultry Feed Troughs.—E. R. I. Freeland, of W. Va., one of the P. F. readers, describes a poultry trough very nearly like the one we have used and illustrated in these columns. He says: "Take a board about 6 inches wide and any desired length for any number of fowls, and nail narrow strips around the edge, say 3½ inches high. Now we have a shallow box or trough. Now take narrow strips about 2 inches wide (plastering lath would do) and about a foot in length; nail these to the box straight up and down, clean around the box; nail wide enough apart so fowls will not get their heads fast. A strip running around the top with the upper end of each strip nailed to it makes the trough secure. The trough is a labor and feed saver, in feeding, is always clean, as the fowls cannot get in it to soil or scratch the feed out. One fowl cannot crowd another out; they all have the same chance. When fowls are done eating hang trough up out of the way."

Poultry Manure and What to do With it.—Poultry manure, including that gathered in the pigeon lofts, is by far the most concentrated of our reasonably balanced domestic manures. As the houses and roosting places are cleaned out frequently, both summer and winter, it is always a question what to do with the accumulations to get the most good out of them. One easy way to dispose of them, although not always the most advantageous, is to spread them over the horse and cattle or sheep manure in the covered yard, to be well mixed in and applied with the others for any crop desired. We think so highly of our poultry manure, however, knowing that it has particular stimulating virtues, for most garden crops, that we usually keep it separate, and try to have a place for it in the garden during spring or summer, and even fall. By using plenty of absorbent materials, such as road dust, dried muck, sifted coal ashes, with a liberal admixture of acid phosphate, or possibly kainit under the perches and on the henhouse floors, we can store the poultry manure in boxes or barrels, under shelter, without fear of losing plant food. The manure will then be in good shape for application at any time it is needed. We have had excellent results from the free use of such manure on the onion patch, on celery, spinach, lettuce, etc. At a rough estimate, we should place the value of a ton of such manure at not less than $5. A Tompkins Co., N. Y., man who keeps 800 to 1,500 fowls, says: "In winter I scatter some litter from the floors on the dropping boards after cleaning to prevent droppings freezing fast to boards. Dropping boards are usually cleaned once a week and houses whenever they become damp or dirty—in winter about once in two weeks, while in summer they do not need cleaning quite so often, as doors and windows are open most of the time night and day and the birds are outdoors a great deal. Manure, as well as litter, is never stored or piled, but always spread directly on the land for various crops, such as corn, grass, berries, etc." An Indiana poultry keeper thinks dry dirt the best to use on dropping boards in the poultry houses, to mix with the hen manure. He uses the mixture on garden, berry plants and some around fruit trees. In taking the manure off the drop-boards each Saturday, the materials get thoroughly mixed and ready for application. A Wisconsin lady has houses with sand floors, and aims to clean them every day. The manure is spread directly on the lawn, asparagus beds, or future garden ground. In the rare case when saved up, the manure is composted with dry earth or straw. She especially values poultry manure for onions, asparagus and strawberries. White & Rice of New York State, who winter 700 fowls, use dissolved South Carolina rock as absorbents on the dropping boards, collect the manure once a week, and spread it from the cart the same as any stable manure, and for any crop. Corn and grass show wonderful results from a light dressing of this mixture. The value of the manure, of course, depends much on the feed given to the hens.

Egg Eating Habit.—Our hens sometimes eat eggs. They always do it when they find a broken egg, with contents running out. They will eat the egg shells thrown out from the kitchen, and yet, they have never (hardly ever) developed a habit of breaking and eating sound eggs, or if they had, they were easily broken of the habit, by self-cure and without much effort. We believe that the hen which has all her wants in the food line supplied, will not attempt to break and eat a whole sound egg. China eggs in the nests are sometimes a good thing for hens which, for want of nitrogenous food, or of shell material, attempt to break and eat eggs. They may pick at them for a while, but soon give it up as a bad job. The Mark Lane Express gives the following as precautionary methods which are always in order: "Our system, briefly stated, is this: To supply a variety of food, both grain and vegetable; never to be without clover; never to omit good shell and grit; never to neglect to gather all eggs at least twice a day, nor to provide nests enough to forestall quarrelling, so common among active birds that all want the nest at once. We have known thirteen Leghorns to lay in one nest in the course of a forenoon, even when other nests as good and as well located were at hand. A nest-egg was the drawing card. The wholesale preference for this nest continued until a nest-egg was furnished for the others, when it at once ceased. It is absolutely necessary to know both breeds and individuals before birds can be handled to best advantage. For instance, to set a Leghorn in the general pen would be to risk breakage of all her eggs before her three weeks elapsed; in the Wyandotte pens it can be done with impunity, if there are nests enough. Perhaps it is needless to say that we do not advise it; but circumstances decide many things."

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Pointed Poultry Paragraphs.

The Hen that has regular attention is the hen that will lay with regularity.

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Philadelphia, August 29, 1903

Caring for Manure.

While it is always best, when practicable, to get the manure accumulations out on the land as fast as made, there will always be times on every farm when it is not possible to do this, and some means should be adopted to prevent the waste of the manure as much as possible. A recent bulletin of the Ohio Station tells of experiments they have made in the preservation of manure with the addition of various substances. Manure from highly fed cattle that had been thrown into the open yard, was divided in the spring into four parcels. On one lot pulverized phosphate rock or "floats" was dusted as it was piled; on a second lot acid phosphate or dissolved rock was dusted as it was piled; on another lot kainit or crude potash salts was scattered, and on the fourth gypsum or land plaster was applied, all these materials being used at the rate of 40 pounds per ton of manure. At same time four other lots were treated in the same way, the manure being taken from box stalls where it had been allowed to accumulate under the feet of animals. The different lots were applied as a top dressing to corn and wheat with a manure spreader, putting 4 to 8 tons per acre. It was found that acid phosphate appeared to be the material producing the largest and most profitable results as an addition and preservative of the manure, but it was also indicated that the pulverized floats may prove to be an economical material for the purpose. The yields were uniformly larger and the increase due to the addition of preservatives smaller in case of the stall manure than in the case of the open yard manure, thus showing that the manure in the stalls suffered less loss than that in the open yard.

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Prove all Things and Hold Fast to that Which is Good.

It is a good rule for farmers to experiment with new things that promise to be of value. But do not allow your enthusiasm over new things to lead you to neglect the old ones that have proved good for you. The farmer in the North, for instance, may find that his soil is suited to the growth of the cow pea or alfalfa, and he should experiment carefully with these. But if clover has been doing well for you it is probable that there is no legume crop that can so fully occupy the place in your crop rotation. We advocate agricultural improvement in every section of the country, but not to the extent of advising farmers to abandon old and tried friends for new ones. On many a farm in the North the cow pea and the soy bean will enable the farmer, whose clover has failed him, to make up the deficiency in forage, and every man should stand ready to take advantage of the means for tiding over a loss of a crop so important for the welfare not only of the animals on the farm, but for the farm itself. We read a few days ago a letter from a farmer who said that the soy bean is a worthless plant, for he last year prepared his land well and sowed some with oats, as he has read that peas and oats were good forage. And when the early sown soys failed he jumped to the conclusion that they are a humbug. Cow peas and soy beans should never be planted too early, cow peas especially, as they are the more tender. Soy beans, too, are always better planted in drills like corn and cultivated, and in many sections the same method will be found best for the cow pea, especially if seed is the object. It is a little harder to make hay with the drilled cow peas, since they tumble over the rows to such an extent that many of the vines will be so flat on the ground that the mower will fail to cut them. For hay and soil improvement we still prefer to sow cow peas broadcast, and the richer the land the thicker the sowing should be, for if thin on the land and the soil fertile they will grow with such stout stems as to be much harder to cure into hay. We hope some of our readers who are too far North or in too elevated a section for the cow pea to be of value for hay, will try a few as a pasture to tide over a summer drought. We believe that many a dairyman and stockman will find them of great value for this purpose. If the stock are turned on before the peas bloom, they can be eaten down several times during the summer. Then if you are where an early variety will ripen its seed try the hogs on them when the pods ripen, and see how they will thrive until time for corn and finishing. Then, too, if you have some peas and the frost catches them, turn stock on the dead vines and see how they will eat every one of them. In pasturing green peas the same care must be used as with clover to avoid turning hungry cattle in on them, as they may get bloated. We have pastured cow peas and never had an animal bloated from them, but we used due care. Alfalfa seems to be a crop suited to a wide range all over the United States, and while it is a crop that cannot be taken into a short rotation, it can be depended upon to give hay and plenty of it if the alfalfa field is kept up in productiveness by annual dressings of acid phosphate and potash and a little lime once in four or five years. Try these things, but never abandon clover in the North. If it fails, try to find the reason and remedy it, for you may be sure that if it grew well with you once it is your fault if it does not continue to do so. Your farming has brought about conditions unfavorable to it, and it is up to you to correct your errors. The crops that have done well for you in the past are the ones to depend upon while testing the value of others that may be valuable under certain conditions. The wise farmer is the one who has foresight enough to be ready to provide for emergencies and failures in his crops.

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On the Road.

The commercial traveling man says that he is "on the road" when he is engaged in his business, and lately the Editor has been on the road until the "knights of the gripsack" seem to recognize him as a fellow traveler, and often want to know what he is selling. We tell them that while we are selling nothing, we are trying to give away information and to gather new wrinkles for ourself. In short, the Editor has been down in North Carolina lecturing at Farmers' Institutes, which are there held mainly in summer. Next winter he expects to change to Maryland, where the Institutes are held in winter, and in both sections he hopes to gather notes that may be of use to the readers of the P. F. The North Carolina Institutes began at Rockingham, in Richmond Co., down near the South Carolina line. The first thing that strikes the traveler in the South, and especially in North Carolina, is the wonderful increase in the number of cotton factories. At Rockingham there are a number of these, with a great water power, and in the town there is a massive building with the sign cut in granite lintel over the door, "Manufacturers' Building." Here are the business offices of the cotton mill men of the town, a sort of business club house. The farmers of Richmond county came out well to the Institute and we had a very interesting time. Mr. Ledbetter, a subscriber to the P. F., has here a small but successful patch of alfalfa, and is planning for more this fall on land now covered with a heavy growth of cow peas. In all of our journey nothing was more apparent than the immense increase in the area devoted to cow peas, and we took to ourself some credit for this since for the past 14 years we have in season and out been urging the Southern farmers to use the cow pea. West of Rockingham, the next Institute was at Wadesboro in Anson county, one of the most productive cotton counties of the State. Here, too, we had a great crowd and numerous readers of the P. F. The inevitable cotton mill is here too, and in addition a silk mill. The cotton crop is late, and, as a rule, the crop all over the State promises to be small as it does all over the South. The large attendance was a gratifying evidence of the increased interest of the farmers in the improvement of their lands. From Wadesboro we came to Monroe in Union county, and there struck the real red clay of the Piedmont country, the other counties having a large portion of sandy soil. Here was the same complaint of late cotton and a poor stand. But we also found one young man, Mr. Broom, long a reader of the P. F.; and a farmer present told us that we ought to go to Mr. Broom's farm to see the result of our teachings. He said that Mr. Broom carefully prepared his cotton land and made it fine enough to retain moisture and then planted it on a level. His cotton was up and a good stand before any one else's cotton, and now, said our informant "he has it worked as flat as a floor, and the best cotton in the county." Thus by degrees the farmers are getting to understand the value of a good preparation of the soil and shallow, flat culture. The example of Mr. Broom, we hope, will spread, for cotton, like corn, is helped by shallow, flat cultivation. At Steele Creek, in Mecklenburg Co., the farmers brought out the usual bountiful supply of eatables, and we had a picnic dinner in the woods. From Charlotte, which is fast developing into one of the finest cities of the South, the road to Steel Creek is through a fine farming country where cotton is the chief crop, but a great deal of good farming is done. It is the typical red soil of the South, and near Charlotte the dairy interest is rapidly developing. Mr. C. C. Moore, a subscriber to the P. F., of course, milks from 75 to 85 cows at different seasons and runs milk wagons in the city. Mr. Moore is an ensilage maker and a grower of cow pea hay, and is making his land richer all the time. From Charlotte to Stanley Creek, in Gaston Co., we went by rail, and found a large number waiting for us, as the train was belated. All along the road there were great fields of cow peas and from Stanley Creek to Lincolnton, in Lincoln Co., where we drove in a carriage, we found the same widespread interest in the cow pea. In the upper red clay country clover formerly throve, but as in other sections North and South, there seems to be a real difficulty in getting clover, and the cow pea becomes a real necessity to the improving farmer.

The Cream of the Bulletins.

North Carolina College of Agriculture and Mechanic Arts Agricultural Experiment Station, Raleigh, N. C. Bulletin 184. The Culture and Marketing of Orchard and Garden Fruits, Including the Pear, Peach, Plum, Cherry, Quince, Fig and Pomegranate. By Prof. W. F. Massey.

This bulletin is well illustrated with half tone cuts from photographs of the trees and fruits, made on the spot by the accomplished Secretary of the Board of Agriculture, Mr. T. K. Bruner, and these cuts add greatly to the value of the bulletin. The bulletin is largely occupied in a general discussion of plants as living things, and full explanations of their life functions, how they get food from air and soil and make growth, all of which is regarded as important to a proper knowledge of orchard treatment, since a complete acquaintance with the life functions and anatomy of a tree will enable the orchardist to be ready to give a reason for everything he does in connection with the planting and cultivation of the orchard. The hope is that these elementary lessons will be of assistance to the unskilled orchardist in giving him a proper idea of the reason for pruning and the way a tree should be pruned. As the bulletin says, a tree is the result of vital forces acting in accordance with fixed laws. None of the operations of life in plants, any more than in animals, are the result of chance. Nature, operating under these laws, never makes any mistake. We may not be able, even with the microscope, to discover any material difference between the embryo in the apple, pear or quince seed, but the apple obeys the laws of its ancestry, and never, develops into a quince or pear. A study of the laws which the Creator has ordained for all the operations of life in plants will enable one to work with his trees and other plants in a rational way, taking advantage of nature's laws to direct the forces in the tree to a profitable use. How our fruit trees grow is illustrated by cuts showing the difference between what are called endogens and exogens, and the old notion that the sap runs up the tree in the spring and down in the fall is shown to be an error, since there is no circulation of the sap in a tree that is at all comparable to the circulation of the blood in animals. The sap that rushes up in the spring is merely water from the soil, laden with food for the plant, and in its ascent in the sap wood it brings about changes in materials stored the year before. The sugar in the maple sap did not come up from the roots in the sap water, but was formed as starch the year before through the action of the green matter in the leaves, and the starch was stored in the cells of the plant to keep as food for the future. But since starch, as starch is indigestible by plants or animals, when growth begins in the spring a chemical principle is developed which transforms the starch into sugar, which can be used directly as food for the living matter in the plant. We have in our saliva the same principle, which transforms the starch in food to a sort of sugar, and if we do not masticate the starchy food well and get it mixed with saliva the change is not complete and we suffer from indigestion by swallowing the unchanged starch. The sap water goes up to the leaves and there the leaves make with it and the carbon they get from the air, all the various substances that go towards the making of structure, and from the leaves the formed material for growth goes through the cells of the young bark in every direction where growth is going on. To the extreme top and to the extreme tips of the roots the material is carried, and whatever the leaf is on the tree that will every other part be, since all material for growth is formed in the leaf laboratory. The roots bring up a great surplus of water and in the formation of the material for growth there is a large part of this evaporated, or transpired, as the botanists say, into the air, so as to condense the true sap. The sap water comes up through the youngest sap wood cells and the young growth goes in all directions through the youngest bark cells. The bulletin gives careful directions for the propagation in the nursery, the planting, pruning and treatment of the various kinds of fruit trees in a plain manner easily understood by anyone. In regard to the common notion that seedling fruit trees, especially of peaches, are more healthy and better than budded trees, the bulletin endeavors to explain why we must, for commercial purposes, use the budded or grafted trees, since in this way only can we be certain of what we have, and as the market demands known varieties we must grow these to be successful, for unknown seedlings never bring a price equal to those known on the market. Then, too, in planting the orchard of seedling trees we would have a general mixture, involving a great deal of labor in gathering fruits ripening at various times, while with the budded trees we plant whole blocks ripening together.

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CONTENTS

AGRICULTURAL.—Tillage May be Made to Increase the Available Fertility.—Health Hints.—A Letter from a "Disgusted" Friend. 129
The Cow Pea, for the Farm, the Orchard and the Garden. — Success with Fertilizers. 130
QUERIES.—Permanent Pasture in Eastern Maryland.—Soluble and Insoluble Phosphates. 131
LIVE STOCK AND DAIRY. — Feeding Silage to Beef Cattle: Part 1.—Corn for Calves.—The Angora a Benefactor. 132
Stock Queries.—Drying up a Heifer. 133
VETERINARY.—Blind Teats.—Indigestion.—"Creeps."—Chronic Cough.—Goitre. 133
GARDEN. — Talks on Timely Topics.—Dry Weather Planting.—Home Supply of Celery.—Moles are Friends.—A Serviceable Garden Hoe.—Current Comments.—Lettuce Rot.—Egyptian Winter Onion.—Points and Pickings. 134
HORTICULTURAL.—Insect and Fungus Pests. 134
Hardy Passion Flower.—Horticultural Queries. — Raspberries and Strawberries. — Worms on Grape Vine.—Setting out Dewberries. 135
POULTRY. — Seasonable Suggestions.—Fresh Eggs Guaranteed. — Raising Little Chicks. — Poultry Feed Troughs.—Poultry Manure and What to do With It.—Egg Eating Habit.—Pointed Poultry Paragraphs. 135
EDITORIAL. — Caring for Manure.—Prove all Things and Hold Fast to That Which is Good.—On the Road. 136
CREAM OF THE BULLETINS. 136
COMMERCIAL.— 137
HOME CIRCLE.—Prize Offer.—Editorial Chat.—All in a Lifetime: Part 8.—A Trip to Old Point Comfort and Fortress Monroe, Va.—Thoughts for Sabbath Afternoon. 138
The Inconsistencies of Some People. —Small Fruit Culture. — Incubator Chicks.—Correspondence. 139
OUR EXPERIENCE POOL.—Topic No. 587.—What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn? 140
FARM IMPLEMENT ANNEX. — Points on Buying Implements.—Corn Harvester.—The Adaptation of Implements and Implement Users.—Chicken Feeder. — A Chat About Grain Drills. — Winged Shovel Plow.—Planet Jr. and Attachments. — Egg Tester. — From a User of the Disk Plow. 142
POSTAL CARD CORRESPONDENCE. 144

We are giving two very attractive premiums to the boys and girls of the P. F., for 50-name trial subscription clubs. In the first place, any bright boy or girl can raise one of these clubs in a very short time, because the P. F. for the remainder of the year for only 10 cents is like giving dollars for cents. Every reading farmer who does not now take the P. F. only needs to be told of the offer to pay his 10 cents for the trial trip. A year's subscription to the Youth's Companion, or a handsome American watch as a prize for a 50-name club is so easily obtained that we should think the children in every P. F. family would unite to secure either one or the other of them, or both. Read the proposition at the top of the next page and let us have your requests for sample copies for the work.

COMMERCIAL

Philadelphia, Aug. 22, 1903.

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No. 2, Penna. and Del.....	83½	@	83¾
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CORN.—			
No. 2, spot and Aug.......	56½	@	56¾
No. 2, yellow, track	61½	@	62
No. 3	52½	@	52¾
OATS.—			
No. 2, white clipped, old....	41½		
No. 2, white natural	40		
LIVE POULTRY.—			
Fowls, hens, per lb........	12	@	12½
Roosters, per lb.	9		
Spring chickens, per lb.....	13½	@	15
Spring ducks, per lb.	12	@	12½
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DRESSED POULTRY.—			
Fresh killed fowls, choice..	14		
do do do average..	13	@	13½
do do old roosters..	10		
do do broilers, nearby	14	@	17
do do do Western.	15		
do do do average.	13	@	14
BUTTER.—			
West. creamery, 1sts to extra	18	@	19½
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Prints, nearby, 1sts to extras	19	@	20
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EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
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Western, choice, free case, L	20	@	20½
No. West do do L..	20¼	@	21
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Mt. Rose, bas.	1.00	@	1.50
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N. C. Del., 8-lb. bas. car..	1.50	@	1.75
Watermelons, So., car....	100.00	@	160.00
Canteloupes, per crate	75	@	1.00
Whortleberries, per qt.	7	@	10
APPLES AND PEARS.—			
Apples, per bbl.	75	@	2.50
Per basket	15	@	60
Pears, LeConte, Ga., per bbl.	3.00	@	4.00
POTATOES.—			
Jersey, per bas.	30		
Sweets, prime, yellow, bbl..	1.50	@	1.75
do do red do	1.25	@	1.50
BEANS AND PEAS.—			
Beans, marrows, H. P., bu..	2.60	@	2.65
Pea beans, H. P., 1902, bu..	2.00	@	2.25
Green peas, per bu.........	1.50		
Scotch peas, per bu.	1.55		
COTTON.—			
Cotton, per cwt.	12.75		
FEED.—			
Bran, bulk, winter, per ton.	13.00	@	18.50
Bran, sacked, spring	18.00	@	18.50
HAY AND STRAW.—			
Timothy, West., No. 1......	18.00	@	19.00
do West., No. 2, small.	15.00	@	16.50
Timothy, mixed Western ...	12.00	@	16.00
Straw, straight rye	14.50	@	17.00
Oat	8.00	@	10.00
Wheat	8.00	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.			
Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4⅝	@	4¾
Common steers	4	@	4½
CALVES.—			
Veal calves firm and active.			
Extra calves	7¼	@	7¾
Fair to good	6½	@	7
Poor and common	5	@	6
Grassers	3	@	4½
HOGS.—			
Hogs about steady.			
Fat hogs, Pa. & Del.......	6½	@	7¼
Fat hogs, Western	7¾	@	8¼
SHEEP.—			
Sheep and lambs lower.			
Sheep, extra	4¼	@	4½
Sheep, good	3¾	@	4
Sheep, medium	3	@	3½
Sheep, common	2	@	2¼
Lambs, spring	4	@	6½

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The New York Market Review.

In the early part of the week the wheat market continued very bullish, and buying was heavy; but a change was due because of good crop prospects, and a falling off in export buying. This setback, however, is not permanent, and traders are looking forward to further advances in view of the general condition of the world's supply of cereals. Cash wheat is expected to advance in some quarters next winter to a dollar a bushel, and present prices are not considered too high in view of this prediction. Corn likewise suffered a relapse, and prices are down half a cent or more. The feeling about the future of corn is not so positive. The future of the crop now growing must be the chief factor to determine the course of prices. Cash corn is steady here, but buying is not very active. Exports are moderate, and foreign prices satisfactory. Oats are quiet, and without much movement, but cash oats are steadily held, with no disposition to urge sales or to accept any reduction. Rye continues as an article of indifferent need, and prices average a very narrow range. Barley is steady, with brewers showing more interest in the market.

Receipts of butter continue steady, but if anything the past week has witnessed a shrinkage in supplies, which has given more tone to the market. On the other hand, dealers have accumulated a good deal of stock, and they are working every possible outlet. Exporters took a good many tubs the past week, and their renewed activity adds zest to the market. It is difficult to get more than 19c. per lb. for extra creamery, although some sales of fancy are reported as high as 19½ and 20c. The bulk of the goods sell at 18c. and downward. A good deal of the best butter is going into storage, and this does not by any means promise immunity from lower prices if goods should suddenly increase much in quantity. Over 40,000 boxes of cheese arrived last week; exporters took nearly 5,000. Speculators are taking hold of the present market, and storing great quantities. Prices are really low, considering the quality of the goods. Shippers are quieter, partly because of high prices. Canadian cheese also advanced, and this stopped exports from ports north of us. Skims and part skims are slow, and the general temper of the market is one of weakness on all low grades. There has been a pretty fair and lively market for live fowls and chickens, and with prices at 12 and 13c. per lb. shippers have found plenty of encouragement to dispose of their goods. Geese are steady, but ducks are weak. Dressed spring chickens have been weak, and there is some surplus to dispose of. Quality of most dressed poultry shows a good deal of variation and irregularity. Turkeys and ducks are slow. Spring geese are dull, and squabs steady. Demand has continued good for eggs, and fancy fresh are in general demand at good prices. Arrivals are a little larger, but any surplus is quickly taken by the storage companies. There is nothing to indicate any weakness in the future, and the cool weather prevailing, the eggs reach market in good condition.

There has been a better movement in domestic beans, with choice lots growing scarcer. There is little pressure to sell marrows, kidney or pea beans, and prices are tending upward. Prices hold strong for good to prime hay, with the latter very scarce. A few special lots are taken off the market at premiums. There is a wide range for straw, but fancy is strong and active. Nearby potatoes are arriving freely, but stock is held up pretty firm, especially for choice Long Island and Jersey white potatoes. Onions are scarce and selling at a premium. Cabbages are in small supply and wanted, while cucumbers and cucumber pickles are bringing unusually high prices, owing to small supplies.

G. E. W.

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New York, Aug. 22, 1903.

WHEAT.—			
No. 2, red, spot............	96⅝		
No. 1, No. Duluth, f. o. b...	88⅝		
CORN.—			
No. 2	58½		
No. 2, f. o. b.	59		
No. 2, white, f. o. b........	59½		
No. 2, yellow, f. o. b........	61		
OATS.—			
Standard, white	42		
No. 2, white	42		
No. 2, white clipped	43		
No. 2, mixed	39		
No. 2, clipped	39½		
No. 3, mixed	38½		
No. 3, white clipped	42½		
No. 3, white	41¼		
HAY AND STRAW.—			
Timothy, pr., l'ge bales, cw.	1.10	@	1.15
do No. 1	1.00	@	1.05
do No. 2	85	@	95
Clover, per cwt.	50	@	60
Clover, mixed	60	@	70
Straw, long rye, per cwt...	1.00		
BUTTER.—			
Creamery—			
Firsts to extras	17½	@	19
State dairy, tubs—			
Firsts	16½	@	17
Western Factory—			
Firsts, current make.....	15½	@	16
West. Imitation Creamery—			
Finest	16	@	17
Renovated—			
Firsts to extras	16	@	17
Packing stock—			
No. 1 current make	14		
No. 2 and 3 current make.	13	@	13½
CHEESE.—			
State, f. c., small, fancy...	10¼	@	10½
Good to prime	9½	@	10
Large colored, fancy	10		
Large white, fancy	9¾		
State, light skims—			
Choice	8	@	8¼
Part skims, prime	6	@	6½
Full skims	1	@	1½
EGGS.—			
QUOTATIONS AT MARK.			
Nearby, fancy selected, white	24	@	26
Mixed lots	21		
State and Pa., f. g., extras..	21		
Seconds to firsts	16	@	18½
Western, fresh gath., extras	19½	@	20
Firsts	18	@	18½
Dirties, No. 1, candled	14		
No. 2	11	@	13
Checked eggs	8	@	11
LIVE POULTRY.—			
Spring chickens, nearby, lb.	13		
Southern, per lb.	12		
Fowls, per lb.	12½		
Roosters, per lb.	8		
Turkeys, per lb.	11		
Ducks, West., av., pair.....	60	@	75
So. and So. West., pair...	40	@	65
Geese, West., av., pair.....	1.12	@	1.25
So. and So. West., pair...	90	@	1.00
Live pigeons, old, pair	30		
Young, per pair	20	@	25
DRESSED POULTRY.—			
FRESH KILLED—ICED.			
Turkeys, average best, lb...	13	@	15
Old, per lb.	14	@	15
Broilers—			
Phila., fancy, per lb.	19	@	20
Mixed sizes, per lb......	16	@	18
State and Penna., best., lb..	15	@	16
Mixed sizes, per lb......	12	@	14
Western, d. p., average best.	13	@	14
Scalded do do	12½		
Dry picked or scald, mixed	11	@	12
So., scalded, small, per lb..	10	@	11
Fowls—			
West., scalded, av. best, lb	12½		
Dry picked, av. best, lb...	13		
So. & So. West., d. p., lb.	12½		
Scalded, per lb.	11½	@	12
Old cocks, per lb.	8½	@	9
Spring Ducks—			
L. I., per lb.............	17½		
Eastern, per lb.	17½		
Jersey, Pa., & Va., per lb.	15	@	16
Western, per lb..........	10	@	13
Spring geese, East., per lb..	18		
Squabs—			
Prime large white, doz...	2.50		
Mixed, per doz.	2.00		
Dark, per doz.	1.25	@	1.50
APPLES AND PEARS.—			
Apples—			
Astrachan, per bbl.	2.00	@	3.00
Open head bbl.	1.00	@	2.00
Nyack Pippin, per bbl....	2.00	@	2.50
Duchess of O., per bbl...	2.25	@	3.25
Maiden Blush, per bbl. ..	1.75	@	2.50
Gravenstein, per bbl.	2.50	@	3.25
Strawberry, per bbl.	1.50	@	1.75
Alexander, per bbl.	3.50	@	4.00
Codling, per bbl.	2.00	@	2.50
Pears—			
LeConte, fancy, bbl.......	3.00	@	3.50
Choice, per bbl.	1.25	@	1.75
Nearby, common, per bbl..	1.25	@	1.75
Keiffer, per bbl.	1.75	@	2.25
Clapp's Favorite, per bbl..	3.00	@	3.50
Bartlett, Del., ½-bbl bas.	1.50	@	2.00
New Jersey, per bbl......	3.50	@	4.00
Up-river, per bbl.	3.00	@	3.75
Bell, per bbl.	1.50	@	2.50
GREEN FRUITS.—			
Pineapples—			
Fla., Red Spanish, crate..	2.50	@	3.50
Smooth Cayenne, per crate	2.00	@	3.00
Havana, sugar pines, crate	1.25	@	2.75
Grapes—			
N. C., carrier, Delaware..	2.00	@	2.50
N. C., carrier, Niagara...	1.00	@	1.25
Champion, per case	75	@	90
Moore's Early, per case...	90	@	1.25
Muskmelons—			
Jersey, per bu. box	60	@	75
Maryland, per crate	1.00	@	2.25
Baltimore, per crate	1.50	@	2.50
Norfolk, per crate	75	@	1.00
Western, fancy, per crate	3.00	@	4.00
Watermelons, per 100......	10.00	@	20.00
Per car	125.00	@	165.00
Peaches—			
Maryland & Del. basket..	1.00	@	1.25
Jersey, per basket	75	@	1.25
State, per carrier	1.25	@	1.50
Plums—			
Burbank, per carrier	75	@	1.00
8-lb. basket	25	@	35
Copper, 8-lb. basket	25	@	30
Blackberries, Wilson, per qt.	8	@	12
Huckleberries, large, blue, qt	10	@	12
do small, qt........	6	@	8
VEGETABLES.—			
Cabbage—			
Long Island, 100 heads..	5.00	@	6.00
Balt., per crate or bbl....	1.00		
Cucumbers—			
Baltimore, per basket ...	75	@	1.00
Jersey, bu. box	1.00	@	1.50
Baltimore, per bbl.	3.25	@	3.50
West. N. Y., per bu. bas.	2.00	@	2.25
Cucumber pickles, per 1,000	3.50	@	4.50
Cauliflower, per bbl.	1.50	@	2.00
Celery, per doz.	40	@	45
Good to choice, per doz...	15	@	35
Eggplants, Jersey, per bbl..	1.75	@	2.00
Per bu. box	60	@	75
Green corn, per 100........	1.00	@	1.75
Lettuce, Boston, per case...	1.25	@	1.50
West. N. Y., per case.....	1.00	@	1.50
Lima beans, potato, per bu.	2.50	@	3.00
Jersey, flat, per bu.......	2.00	@	2.50
Bush limas, per bu......	1.00	@	1.50
Peas—			
Western N. Y., per basket.	2.00	@	2.25
Peppers, Jersey, per box....	50	@	60
String Beans—			
West. N. Y., bu bas., green	1.62	@	1.75
Bu basket, wax	1.37	@	1.50
Squash, So., white, bbl. crate	1.00	@	1.50
Marrow, bbl. crate.......	65	@	75
Yellow crookneck, bbl. crt.	75	@	1.00
Tomatoes—			
Best Jersey, per box....	65	@	75
Acme, per box	1.00	@	1.25
Choice Jersey, per box....	50	@	60
Southern, per carrier	60	@	90
Baltimore, crate, Acme ..	90	@	1.12
Russia turnips, per bbl.....	1.25	@	1.50
Onions—			
N. J., yellow, per bas....	90	@	1.00
White, per basket	1.00	@	1.25
Kentucky, per bbl.......	2.25		
Per bag	1.12	@	1.20
Denia, crate	1.05	@	1.15
Long Island, per bbl.....	2.00	@	2.25
Virginia, white, per bbl..	1.75	@	2.00
Yellow, per bbl.	1.75	@	2.00
Orange county, red, per bag.	1.75	@	1.90
Connecticut, per bbl.	2.00	@	2.25
POTATOES.—			
Long Island, prime, per bbl.	1.87	@	2.00
Jer. & Md., pr., round, bbl..	1.87		
Jersey, pr., long, per bbl....	1.62	@	1.75
Southern, fair to good......	1.50	@	1.62
Sweets, So., yellow, per bbl.	2.00	@	2.25
Red, per bbl.	1.50	@	1.75
Yams, So., wht. and yel., bbl.	1.50	@	2.00

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

For P.F. Boys and Girls

There are thousands of boys and girls who belong in the P. F. family who can send us clubs of trial subscriptions. We are sending the paper on trial for the remainder of the year for only 10 cents. Here is the choice of two valuable premiums to be given to every boy or girl who will send us a club of 50 of these trial subscriptions and $5 to pay for the same: A year's subscription to THE YOUTH'S COMPANION or a handsome AMERICAN WATCH. The Youth's Companion is the best young people's paper published, and is good reading for every member of the family, young or old. The watch is just the right size for the boys, has an American movement, with stem set and stem wind. It is guaranteed and first-class in every respect. A club of 50 10-cent subscriptions entitles the club raiser to the choice of either one of these premiums, and a club of a hundred to both of them.

We will send 50 free sample copies and subscription blanks to every boy or girl who will send us name and address and say they will try to raise a club. Send direct to

THE PRACTICAL FARMER,
Philadelphia.

Prize Offer.

One dollar each for the best five manuscripts that reach our desk before October 22. None considered unless sent direct to Mrs. V. C. Melville, Sun Prairie, Wis.

Editorial Chat.

We continue to hear good reports about the 1900 Washer, and no wonder. It is the greatest thing in the washer line we ever heard of. And then consider that you can have it in your home for a whole month for trial, and if not satisfactory send it back, without a cent of cost to you. It just had to be the best washer ever made or the manufacturers never could afford to send the washers all over the country under such conditions. We confess that with such a help wash day has lost much of its terror and discomfort and we can afford to smile at our old time horror of "blue Monday." Send to the 1900 Washer Co., 23 N State St., Binghamton, N. Y., for book and particulars, and tell them we told you to.

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It will be no fault of the Business Management of the P. F. if they do not succeed in getting every boy and girl to raising 10-cent trial subscription clubs. First they offered a year's subscription to the Youth's Companion to any boy or girl who would send a club of 50 of these 10-cent trial subscriptions. Last week they followed it up with a regular American watch for similar clubs, and this week they give every boy and girl their choice of either the Youth's Companion for a year or one of the watches for a club of 50 10-cent names. What boy is not proud to carry a watch and pull it out in the midst of an admiring circle of his chums and tell them the time of day. And here is an opportunity for every P. F. boy to be able to do that very thing. Boys, if only one of you, we wouldn't let any grass grow under our feet until we had those 50 names.

All in a Lifetime.—Part 8.

VELMA CALDWELL MELVILLE.

"No, honey, heaps on 'em don't. It all 'pen's on what dey marry fer. Some marry fer money, some fer spite, some fer 'venience, some ter please some un, some kase dey kaint help it, 'nd some fer one ting 'nd some fer 'nother, but dey haint nobody a right ter marry fer anyting but lub, honey, anyting but lub. Now I'se been married four times. Rasmus 'nd me married 'cause we're both old 'nd lonesome. Twict I married 'cause my massa made me, and once I married fer lub, honey, only onct fer lub."

"Tell me about that time, Aunt Dawn," and Patty Pearl's eyes seemed to be looking into the very soul of the old negress, so earnest and eager was her gaze. She was very white; her hands were clasped about her knees and her breath came fitfully.

"Dat's de time I likes ter talk about," said Aunt Dawn, drawing a chair to the bedside. "Now you jes lay down, honey, 'cause it's chilly kinder, 'nd let Aunt Dawn rub yore luns."

When matters were arranged to her liking, she began in a soft crooning voice the story of her life.

"Yer see, chile, my ole mammy had sech a hard life that it had sort o' made me bitter 'nd I promised myself I'd nebber marry. But one day, 'fore I was sebenteen, my massa, who was a hard man, come ter our cabin 'nd says he: 'I want dat gal ter marry Big Bob, 'nd I want her ter do it right off. I'll tell him to be 'round here tonight 'nd by Sunday ye'd better have the weddin. Ye kin have a couple of chickens 'nd a reg'lar high if yer want ter,' 'nd wid that he wuz off.

"My mammy jest dropped inter her chair 'nd kep' wringen her han's 'nd sayen nothun, only moanen. Ez fer me, I wuz young 'nd thought I could do ez I pleased. Mammy knew better. Well, when Big Bob cum 'roun I jes tole him to tote hisself off. He tole massa 'nd then I got my choice—marry Big Bob er take a hundred lashes' and be sole way down South. I married Big Bob 'cause I knew it would break mammy's heart to hev me go. I was that gritty I'd a taken the lashes. We didn't get on well, Bob 'nd me, 'nd by'mby I got sickly 'nd peevish. I used ter work in the cotton field till I jes plum drop in my tracks. One day de oberseer found me fallin' behind 'nd hit me four er five times. It jes laid me out on the groun' 'nd then he lifted his big boot ter kick me when a likely young darkey, dat had lately come, jerked him clean off'n his feet. Law, chile, but ye'd put yer fingers in yer ears to 'a heard him swear. 'Nd didn't that darkey catch der strap! All the debble in me wuz up, fer Big Bob 'd seed it all, that time 'nd lots of others, but never said a word. I foun' where dey put Luke Halley dat night, after his floggin, 'nd I took mammy 'nd we went 'nd bathed and doctored his po' back. O, missis it war an awful sight! May the good Lor' ha' forgibben 'em, Dawn neber has. When we got through our bit o' candle was plum burnt out. We felt our way out o' the shed 'nd then somebody grabbed me. I didn't scream; I jest felt it was Big Bob, 'nd he whispered, 'Ha, ha, I've ketched ye!'

"He pounded me when I got home, but I dasn't say nothin fer fear marsa'd give me another. After that der was bad blood 'tween the two, but Luke wuz allers kin' ter me.

"By 'nd by Marsa had to let Bob go on debt, 'nd then he said I mus marry some un else. He said he'd give me six weeks, 'nd if I hadn't foun someone by that time he'd find one. In a day or two Luke Halley axed me to marry him, 'nd I said 'sho now yo don't want me,' but I knew I wanted him. Yes honey den Dawn knew what lub was, 'nd she's know'd ever since, 'nd allers will—Praise de Lord! It is sweet ter lub 'nd be lubbed, chile—it's life itself. Ye can't help lubben when de right one comes 'long. Yo ain't ter blame fer it, it's jest natural. Jes the day before de weddin' Marsa sole Luke fer debt, too, 'nd he went more'n a hundred miles away. I felt the worst I ever did in my life. Three weeks after I had ter marry Binney Frazier.

"Binney was an innercent, harmless, sort o' nigger, who never did nobody any harm. I tole him how I felt 'nd he didn't make no fuss, ner ever twit me, but, 'course, I was mis'able. I jest laid wake nights thinkin' o' Luke till my baby came, then I named him Luke. I wuz happier after that. One day they brought Binney home dyen—kicked in de head by a mule. Den I was sole away from my baby. I said I'd die fore I'd go, 'nd the good Lord took de baby 'nd I praised him for it, 'nd I've praised him ever since, fer he lead me ter the very plantashun where Luke was. We married at onct 'nd fer five year I was the happiest woman on earth. Den he tuke a fever 'nd died, 'nd both my babies died, but I didn't ever get peevish again. I jest said yo had yer heart's wish, Dawn. Yo lubbed 'nd youv'e been happy. Tank de Lord and fer a m'morial of it keep shiny, Dawn, keep shiny. Dat's all my story honey, 'nd I guess yo tired 'nd wish ole Dawn would shut up."

"No, no," protested Patty Pearl, "I have enjoyed it all— that is been interested—but oh what you have suffered, Aunt Dawn—what you have suffered." And then she hid her face in her pillow and sobbed hysterically. Aunt Dawn was frightened, but when the storm had spent itself her charge went quietly to sleep. Time passed and passed very miserably for the young wife. In vain she hinted and finally proposed outright that she be allowed to come home.

With pages of endearing epithets and tenderest words of solicitude, her husband filled his letters, but firmly refused her request. She was better off where she was and he would be down for Christmas. With this she tried to content herself, resolving she would return with him whether he willed it so or not. Life with Dewild Langstroth was rather an uncertain affair. Sometimes she was so kind and agreeable that Patty Pearl blamed herself for not liking her all the time. Then, all in a moment, the woman would change, and her sharp points be something hard to get around. Her hatred for Northerners would break out at the slightest provocation, and sometimes with none. As the weather grew cooler there was not much pleasure in being obliged to spend whole days out of doors while her hostess spent herself and regained her equilibrium, and her room was, to her a very gloomy place, especially when Aunt Dawn was not there. Indeed the sole comfort of those dreary days was the good old negress, who mothered and petted her in real "old mammy" fashion.

(To be continued.)

A Trip to Old Point Comfort and Fortress Monroe, Va.

AUNT ARAMINTA.

One bright, beautiful morning in October last I bid farewell to home and business and started out, all by myself, to have a grand time. I boarded the train at our country station and went as far as Clayton, Delaware, which is a great railroad centre, and a very pretty little town. There I had a wait of about two hours for the express, but I met the genial editor of the Peninsula Methodist, who was also waiting for a train, and we had a pleasant chat until his train came. At eleven forty-five the express came thundering in. We hustled on board for the long trip down the Eastern Shore Peninsula to Cape Charles City, which is situated at the lower end on the bay side. How beautiful the country is in October! There were the woods in all the gorgeous tints of autumn, the beautiful green wheat fields and the herds of cattle and sheep feeding in the fields, with here and there a stream of water that mirrored the bright blue sky above. As we hastened on through Delaware the scenery changed somewhat. Instead of wheat fields we seemed to be running through an endless succession of berry fields, strawberry fields that even Mr. Terry could not find fault with; great thick-set rows and not a weed. I wonder how they ever get the berries picked, for there are miles and miles of them, to say nothing of raspberries, blackberries, peach, apple and pear orchards. We passed a number of small towns and villages, Saulsbury being the most important place at which we stopped. It is a wide-awake, hustling place, where it is said that you can get anything you want, from a cambric needle to a congressman. From the looks of the great lumber piles one would think that a coal strike would have but little effect there; I really did not know that we had so much wood on the Peninsula. In travelling on through the two counties of Virginia, we came to some way stations with strange names, one being "Birds Nest." Although it was in the woods I failed to see either the bird or the nest. We had, at one point, a brief glimpse of the misty blue ocean. Soon after that we reached Cape Charles City, which is a small place as yet, but in time it will be a large town, perhaps a city, now that the railroad is there. The sun was setting and the steamer was waiting, so we lost no time in getting on board for a two hours run across the bay. It was a pleasant change from the dusty cars to the boat. The air was mild and the bay was like a large mirror. It seemed to catch all the stars and hold them trembling there. At 7.35 we arrived at Old Point but it was too dark to see anything clearly except the beautiful Chamberlyn Hotel, which was all ablaze with electric lights. I was met there by my cousin, who hustled me onto a trolley car for the last ten miles of my journey, my destination being Newport News, ten miles above Old Point. There I found dear old aunty and a good night's rest. The next day my cousin took aunty and I in his surrey for a spin around the city of Newport News, which is beautifully situated on the James River and Hampton Roads, that wide water where a few years ago the navies of the world held rendezvous. As we rode along the water front we could see Old Point and Fortress Monroe and the town of Hampton to the left, and Norfolk and Portsmouth to the right, while straight ahead was a view of old ocean. On the James River side of the city is situated the great piers where the steamships stop. The coast steamers from North and South stop here on their way to Baltimore. On this side also is the great shipyard where seven thousand men work, building war boats and great steamships. It does not take a prophet to foretell a wonderful future for this young and growing city. They already have many of the modern improvements. Twice during my stay I visited Old Point. We went all through the quiet old fort and saw the great guns lying like watch dogs in the sun. What a quiet place it is, and of more importance as a summer resort now than a fort, as the presence of the beautiful Chamberlyn Hotel attests. Here, too, at Old Point is the great Hampton Training School for Indians and colored students, and it is of itself a wonderful place. I went through the most of the workshops. They teach almost every kind of mechanical art for both boys and girls, and they are taught by doing the work themselves. It is quite on object lesson to educators to see what a change it makes in the wild, untutored Indian and the poor, ignorant colored boy or girl to go through the different grades. They have military companies and a fine band of music; also have a 600-acre farm where they teach all about agriculture. I think it would be a blessing if all the poor boys and girls of this land could have the advantage of such an education. They would not be wondering what to do when they left school, but would be fully competent to follow whatever branch they had chosen, and able to make a success of it from the start. I also visited the Old Soldiers' Home. Poor old men, all gray headed now! There are four or five thousand there. It made me feel sad to see so many of our brave defenders without a home of their own, but it is a blessing that the Government can give them such a beautiful one as this, with the old fort on one side and the blue water on the other. The buildings are large and pleasant looking. The grounds are lovely, but the cemetery is fast filling up. They will soon all be gone—the great Grand Army of the Republic. God bless them every one! But, my visit over, I bade farewell to friends and boarded a Boston steamship for Baltimore, where I arrived safely the next morning. Thence by river steamer home—the best place on earth.

Millington, Md.

Thoughts for Sabbath Afternoon.

J. E. LAWRENCE.

In the ever varying experiences of life, perhaps under the weight of some crushing sorrow, or in the pain of the "sting" of disappointed hopes, we sometimes ask ourselves, "Is life worth living?" Under the influence of our surroundings, the experiences of the past, the prospects of the future; or in contemplation of the weight of sin and misery that afflicts mankind, we are tempted to say that it is not. If life began and ended here that reply would be correct. Then, whether it might be long or short, filled with pain or with pleasure, made up of good deeds or of evil, it would be immaterial. The result would be the same. Fortunately, such a faith is held by but comparatively few, and their hopes must be buried beneath a darkness so dense "that it might be felt." To such, creation tells nothing of a creator nor Revelation reveals anything of immortality. It is not in harmony with the great plan of the universe, for that has existed from age to age and will exist forever. Humanity is greater than the universe, not only in its generations, which come and go, but supremely so in its purposes and ends. The ills we feel are but the measure of human imperfection as it affects ourselves; many of them the offspring of our own deeds, something more or less from the common burdens and from our relations to others. Those who are discouraged by them should reverently take their Bible and read the fifth chapter of St. Matthew. If they read but three words, "Blessed are they," then pause to consider their full meaning, a ray of comfort might penetrate their souls, which would elevate them into an atmosphere of peace and joy.

The acquisition of all permanent good comes through the character, and that is gained (or lost) by means of the every day concerns of life. Daily duty faithfully done, daily burdens patiently borne, daily toil honestly performed are the means to the end for which life is given. Such toil, humble though it may be, though but the "hewing of wood and the drawing of water," is a sacred calling, for it was instituted by Him whose every thought is sacred. It works no ill to the neighbor; it clothes the naked; it feeds the hungry. It exerts an influence that is felt in the marts of trade, in the halls of learning, in all that is worth preserving in human institutions. It brings Christianity down to the level of practical life without debasement. It elevates humanity without rendering it proud and haughty. The decay of the former would mean the decay of both. The Barbarian, like the lions and tigers of his jungles, lives mainly on that which he destroys. No doors open for refuge, no spires point heavenward. Unregenerate civilization may work with better weapons and destroy more effectually, but all aggressive destruction is but a relic of barbarism. It is no part of God's plan or purpose. There is ever a better way, and that it is not found is no fault of Him who overruleth and bringeth good out of evil. Hasten the day then when the Christian's prayer will be answered. "Thy will be done in earth as it is done in heaven," and it will be done just so far as men believe in it and desire it, for His promises are sure. Could I convey to each one who may read these lines what I would, it would be as much as possible of that "light" which shines for me, of that "strength" which sustains me, of that "hope" which cheers me in the near prospect of the life to come. But these things are not bestowed by human hands, but by Him alone who is "the way, the truth and the life." "Ask, and ye shall receive, seek, and ye shall find, knock, and it shall be opened unto you."

Spafford, N. Y.

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The Inconsistencies of Some People.

CAPTAIN W. DE WITT WALLACE.

There are many people to whom it has never seemed to occur that our political system, if carried to its logical results and justly applied, would place the ballot in the hands of every woman in the land. And why not? They constitute a majority of our people. They are subject to the laws; they pay taxes; they are as intelligent and patriotic as the men; and vastly more conscientious. If I were asked, who are the most inconsistent men and women, I would, without a moments hesitation answer, "The opponents of woman suffrage." Think of it! They proclaim that man and woman have different natures and yet maintain that man can represent woman better than woman can represent herself; they admit that woman possesses intelligence and mental endowments equal to man, and yet maintain that she lacks business and political sense; they protest that virtue is the most essential qualification of the citizen voter, and yet maintain that woman, who possesses this qualification in the highest degree should be excluded from the polls. They admit to the ballot box the worst elements of society, and yet maintain that the best elements should be excluded from it; they believe that nature established the home, and yet maintain that a legislative enactment, giving the ballot to women, will tear it down; they concede that woman is the best sculptor of human character, the grandest teacher of the citizen voter, and yet maintain that the product wrought is everything, the artist nothing—the pupil a king, the teacher a slave, and they assert that all governments derive their just powers from the consent of the governed, and yet maintain that governments should be established and laws enacted with the consent of less than one-half of the people; they declare that taxation of man without representation is tyranny, but that taxation of woman without representation is a blessing; they trust the Negro, the Chinaman, the Irishman, the Indian, the German, the Hottentot and the South Sea Islander, if these choose to come to our shores, but they refuse to trust their own wives and mothers.

They fear that, if the latter should breathe the pure air of political freedom, it would poison their moral lungs; they fear that the flower of modesty, though watered by the dews of liberty, would wither in the sunshine of freedom; they fear that the cords of affection, which break not at the drunkard's strain, will snap asunder at the first touch of political difference; they fear that the love of the mother for her child, which, as in the case of Ben Hur's mother, chooses for herself misery and death, to save her offspring, will be swallowed up in the love of politics; in one word, they fear that woman is, by nature, unfitted for freedom. I set my foot upon this doctrine, and I declare that freedom—freedom intellectual, freedom moral, freedom civil, freedom political—is as truly the natural possession of woman as it is of man, and that it is as necessary to her highest and best development as it is to his. After all, is it not true, in spite of our principles, that our boasted Republic is, practically, but the government of a class, for a class and by a class? But the times are auspicious. The world moves; and mark my words, the day is not far distant when our wives and daughters shall walk with us to the polls, as they now go with us to political meetings and Fourth of July celebrations.

Small Fruit Culture.

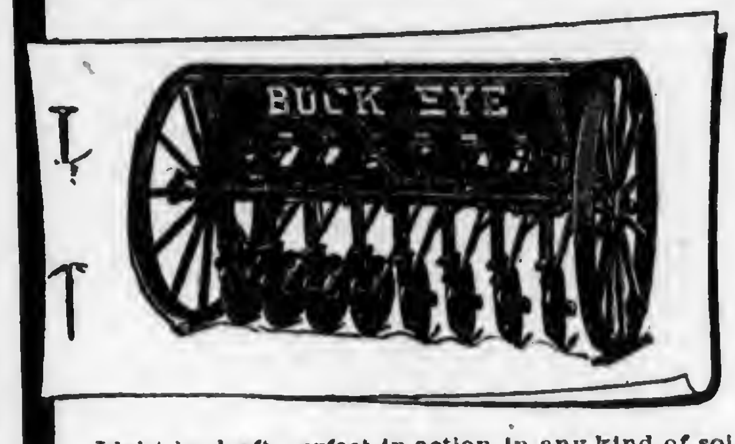
R. GAINES ROBERTSON.

Strawberries.—Prepare the ground in the fall by heavily manuring and plow under 6 or 8 inches deep. In the spring run over the ground with some good harrow, thoroughly pulverizing it to the depth of 2 or 3 inches. Mark off rows 3 feet 6 inches or 4 feet. Set plants 18 inches in the row, setting the plants so as not to cover up the crown, leaving on a level. Cultivate thoroughly and when the runners start, place them with a little clod on vine to hold them in place, setting the plants 6 inches apart from each other. Keep out all weeds and grass, and when the ground freezes cover with 3 or 4 inches of straw. In the spring remove the straw from around the plants, leaving enough to protect the berries from the soil. After the crop is gathered mow the vines, and as soon as wilted, burn over and commence to cultivate for next crop.

Raspberries and Blackberries. — Plow ground as in case of strawberries. For black caps furrow out in spring 4 inches deep in rows 6 feet apart, setting plants 4 feet in row. Cover an inch, and as the plant grows pull the dirt up to plant until it becomes level; cultivate with the Planet Jr. cultivator and keep down all weeds. When plants are 20 inches high nip off top and when side branches are 12 inches nip them; shorten back in spring side branches to within 6 or 8 inches of main stem, this gives finer berries. As soon as crop is off cut out all bearing wood and burn. I prefer to plant red raspberries or those that sucker, as well as blackberries, in the fall. Of blackberries I would plant sucker plants, or those raised from root cuttings, in the fall 7x7 feet, and cultivate both ways like corn. Treat same as raspberries. If I were planting root cuttings I would plant in spring, laying off rows 8 feet apart and drop cuttings 15 or 16 inches apart in row. The furrows should be 6 or 8 inches deep. The first year cultivate with a 2-horse cultivator, afterwards shallow. Deep cultivation, after the first year, breaks the roots, shortens the crop and causes suckers to come up all between the roots. Nip plants when 2 feet high; side branches when 12 inches. Cut out old wood and burn after crop is gathered. After the second year a mulch of straw 8 or 10 inches deep would pay well, especially in a dry season. I have a good market at home for all I raise. My strawberries bring me 10 to 15 cents per box; raspberries, 50 cents per gallon; blackberries, 25 to 30, and sometimes 40 cents per gallon. The Early Harvest I consider the poorest berry I have, yet it brings, on account of its earliness, 40 and 50 cents per gallon.

Marshall, Mo.

[We give room for considerable repetition on the subject of small fruit culture because we consider it an important one, and the season to plan and make ready for next year is close at hand. One cannot have too much small fruit if there is a market within reasonable distance or a shipping point handy.—Ed.]



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Incubator Chicks.

MRS. LINNA O. LUCE.

Previous to 1902 we had always hatched chickens with hens, setting large hens on fifteen eggs each, and small hens on thirteen each. I always attended to it that the boxes were clean with a nice nest of clean, dry straw; then would sift in some kind of louse killer, for lice always seem to search out the sitting hens first. Next, I would place in the nests the previously and carefully selected eggs. My next step was to select my hens, which were always ones that had their "minds made up," and would sit anyway and not be driven off by other hens nor fly when a person approached the nests.

I had a separate house where I set the most of my hens. To keep others from laying in and disturbing the nests of the sitters, I kept the hatching-house door closed (ventilating through the slat covered windows), except a little while towards night, when I would open the door and take the hens off their nests so they could go out and pick grass and grit. Grain and fresh water I kept by them all the time. If the weather was very dry I sprinkled the eggs occasionally with luke-warm water, after about sixteen or eighteen days of sitting.

After all the pains taken, some hens would hatch very poorly, only 25 to 30 per cent. of eggs set, while others would hatch nearly every egg; a reality which I could not account for, unless some hens were capable of imparting more vitality to the embryo chicks than others. A year ago we purchased an incubator. We operated it about two days, without filling, to be sure we could control the temperature; then filled the trays with eggs. All went smoothly for the first two or three days; then, through some negligence of my own, the machine became overheated. Going into the room I found the regulating valve swinging in the air. I opened the incubator doors at once, and to my consternation, the thermometer stood at 109 degrees. I thought the eggs must surely be all ruined, but would not give up until I had given them a fair trial. I let the incubator cool off to a little below the required heat before closing, then broke one of the eggs. I thought I could detect signs of life, so contented myself as best I could until the first test, when the fertile eggs proved to be developing finely. With my first trial only 30 per cent. of the eggs hatched; but that was as good as nearly anybody was doing around here, so I had no reason to complain. I operated the incubator for four more hatches, getting a percentage of 63 to 76 of the fertile eggs. The temperature at times wavered from 90 to 112 degrees, although not remaining long at either point. After all I prefer the incubator to the hen, for it is always ready to be set at the operator's will.

Cherry Creek, N. Y.

Correspondence.

Mrs. P. Wheeler, Lawrence Co., Alabama, writes: I am a newcomer to the H. C. Am an invalid, confined to my bed the most of the time, and cannot walk without support. Do not know that I can write anything to interest or amuse. We take the P. F. and would not like to do without it. There is much to interest and instruct all classes of readers. The articles for the kitchen and home are comforts. Whatever will help in any direction should interest housekeepers. So much depends on the kitchen; some like a large one; some a small one. It depends much on other things. I have had both and think I prefer the small one. It is less work to keep in order, and one can have things in easy reach. Cupboards are to be preferred to pantries. I like Mrs. G. R. Hunt's ideas. Mrs. Wolfe gives a good list of home comforts, and the article on fruit is nice. I am a great lover of fruit, and we have had it every day since Easter, when we picked two quarts of strawberries of a size and quality to gladden a fruit lover's heart. We had but few peaches; killed by the frost. We had some pears and apples, the first the trees have borne; grapes are just beginning to ripen. The strawberries held on until July 12th, when we picked two quarts; in all we picked three and a half bushels; some measured four and a half inches, perfect fruit. Owing to abundant rains, crops could not be planted until late, but the prospect now is for a fair crop. From my cot, where I lie most of the day, I look out on a field of corn and cotton, which, before the Civil War, was one vast field of cotton and worked by slaves. The man who once owned the land is our neighbor; a nice man. I am a Wisconsin woman, but New England born. Lived in Ohio in the hotbed of Abolitionism. No one who has never been South can have any idea of the wilderness which has sprung up and the desolation spread all over the country, where was once an abundance of fruit. Good houses are all gone. The land is grown up to pines. There are some few houses outside the towns, but mostly they are gone to decay or are replaced by log houses. The emancipation of the negro was the ruin of the country. They fared better before, in every way; but the South is looking up, and I hope a better day is dawning for all. The 7th of August I was 82 years old, but thought I might contribute my mite. In making a rug take worsted pieces (cotton may be used, but is not so pretty), cut in bias strips one-half or three-quarters inch wide; gather through the middle on a double thread, and draw up close. It will twist into chenille-like strips. Take burlap the size you wish your rug; sew on the chenille around the edge for a border, commencing with black and shading according to fancy. Then start the centre in some conventional design; then fill in the odds and ends strung hit and miss. Draw the ropes of chenille close together and sew very thick. They are good imitations of Smyrna rugs. Have a soft, velvety appearance.

[We appreciate this letter very much. Please come again.—Ed.]

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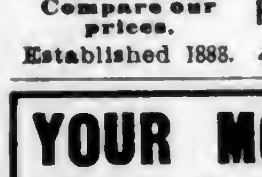

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Topic No. 590, Sept. 19.—*What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?*

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 593, Oct. 10.—*Have You Tried Any of the New Irish Potatoes Which Have Been Introduced? If so Give Your Experience with Them as to Yield, Earliness and Quality.*

Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat for Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 587.—What is Your Experience with Hedges for the Farm and Ornamental Evergreen Hedges for the Lawn?

E. J. Adkisson, R 13, W. Nashville, Tenn.—We have had plenty experience with the Osage orange "hedge fence." Personally, I think Osage orange for farm fence one of the devil's most successful inventions. About 20 years ago smooth-tongued agents came through this part of the country and secured contracts for setting miles and miles of this fence. We have a lot of it that cost more in the beginning than a real fence, and we have gone to a deal of expense trying to kill the trees but with very little success. The printed matter of the hedge company had cuts of the most beautifully even and almost mouse-proof hedge imaginable. But how different the reality. The stuff grew and grew. For some years we tried to follow instructions, pruning and trimming again and again. Then we saw it would never make a practical fence and applied the grub puller, drawing up the plants but not all the roots. Where one had stood five now sprang up. Next came the ineffectual salt treatment. The grubs were cut off below the surface and a large handful of salt put on each root. Another section of fence was turned into a wagon road and for four seasons wagons heavily loaded with logs and cord wood passed over it, keeping the young shoots killed back. After four years' use the road was abandoned and the fence came back, not quite so thickly, to be sure, but still "a plenty." After all our efforts we have not absolutely destroyed more than 10 or 15 per cent. of it. There is some of this fence in this county 30 feet tall, and sapping the ground for 25 feet on each side. Finally, I would say of farm hedge: Don't buy it. Don't let anyone set it on your land free of charge. Let it alone. Use woven wire. Ornamental lawn hedge is another question. Such are often desirable and when properly cared for are all right. Privet is good. So are the arbor vitæs. For an easily managed, almost evergreen screen, woven wire overrun with the old-fashioned white and yellow honeysuckle or the white-flowered sweet scented paniculata clematis is hard to excel. The trifoliate orange is said to make a fine ornamental hedge and we are growing a lot of young trees from seed of a large one we have had for ten years. It blooms and sets fruit from three to five times each season and in late fall and early winter it is beautiful with its green leaves and hundreds of yellow globes that hang on until frozen hard. It makes a fine specimen for the lawn, and we think it would be fine in hedge.

B. P. Wagner, R 1, LaBelle, Mo.—Our farm on the north is bounded with hedge, and I must say that it is a nuisance, as it takes up quite a bit of room, and as our neighbor, to whom it belongs, does not trim it. If it were on the south side so as to shade the fields it would be much worse, but it is strictly a nuisance any way you can place it. It is all right to have a few cedar trees in the yard but don't overdo it.

J. R. Johnston, New Wilmington, Pa.—A well cared for hedge is a thing of beauty, and a good permanent fence, while a neglected one is a disgrace to any farm. I have not a hedge on my farm, but they are so numerous here that I well know the method of management. For a farm hedge prepare a strip of ground about six feet wide, as carefully as if for a garden bed. In April set a row of one-year Osage orange plants 12 inches in row and straight as a line. Give the best of culture the first two seasons. On our clay soil the trees are six to eight feet tall when three years planted, and are then ready to put down. Now stretch one barbed wire 2 feet from the ground and another 3 feet; fasten securely to end posts. Then commence at one end and bend or break each tree down to an angle of 45 degrees, or half way from perpendicular. Tie to the top wire and cut off what is above the string, also all side branches. Leave strong trees standing straight about every 20 feet and staple wires to them. Branches from each tree will grow straight up and form a dense hedge that no farm stock will try more than once. It must be pruned twice each summer. This is quickly done with a sharp cutter made from a scythe blade, on a straight wooden handle. Our nicest lawn hedges are arbor vitæ. Set 2-year-old plants 12 inches in the row. Encourage growth by cultivation and feeding. When 4 feet high cut off at 3 feet and clip the sides to any shape you may wish. Some prefer pyramid shape with flat top; some clip to a wall equal in thickness at bottom and top. Remember, a hedge is not a lazy man's fence. No hedge worthy of the name is secured or maintained without labor and continual care.

J. W. Pierson, R 1, Union Springs, N. Y.—When timber began to be scarce to cut for rails and boards for fencing, farmers began to look for something for cheap fencing. A nursery agent came along and told the advantages and beauty of Osage and honey locust hedges. A large number were sold and planted. After twenty years trial a number have been cut down or pulled up, and we are fighting the sprouts that come up each spring. The objections to hedges are that they take the moisture and plant food from the growing crop, the roots reaching out so as to dwarf from two to four rows of corn. I have found roots an inch in diameter 25 feet in the field from a honey locust hedge 25 years old. Then a plant or two will die out and that leaves a place in the hedge to be repaired with boards or wire until a new plant can be grown large enough to turn cattle. Then the labor to trim and care for a hedge each year is more than any other fencing. The same objections of trimming and roots dying apply to the ornamental evergreen hedges of arbor vitæ and spruce. About a garden they will not turn poultry unless a low wire netting is stretched on the inside. They form a good wind break, but where a yard or garden is all enclosed we have more trouble with late and early frosts, as the circulation of air is stopped and the frost gathers the same as on low ground.

William C. Aiken, Los Angeles, Cal.—Considerable experience with hedges for the farm, and ornamental evergreen hedges for the lawn has shown them to be impracticable as fences, and in most cases an expensive luxury that many farmers can hardly afford. Our place in Northern Ohio was almost surrounded with an Osage orange hedge, planted by grandfather, that was always well kept and regularly trimmed. In the summertime with its glossy bright foliage it was indeed a beautiful sight. The labor of keeping it up, trimming regularly, etc., was very great, and generally came when the time could hardly be spared from other pressing work. It was never really tight and the place was not safe from stock, so that it was finally replaced with other fencing. We also had a handsome bit of evergreen arbor vitæ hedge about the lawn. It was very slow growing, thin in spots and always in the way in cutting the lawn and gathering chestnuts. It was never considered quite satisfactory though it had the best care. We have planted and cared for several evergreen Monterey cypress hedges so much grown on the Pacific coast, there being many miles of it throughout the State, but which are now condemned as soil exhausting and dust catchers. All hedges require an expert in trimming, as a carelessly trimmed hedge is certainly most unsightly, and an abomination.

J. S. Hodel, Cissna Park, Ill.—Nine years ago we burned half a mile of hedge and the next year nearly finished the remainder, being tired of its use, or rather of its uselessness as a fence, as it will not turn stock unless made very well at planting and laying down. We put straw alongside and as near under the hedge as possible, burning it dead in late August. The brush, being dry and thorny, made a better fence for a few years than when green. Later I cut it away and put a post and wire fence in place of the hedge. When it is very dry a hedge will wither two to five rows of corn along its side, and if not cut down every year, it will hurt crops still further. With the work that a hedge fence makes and all the damage to crops I cannot see the economy of the fence.

Walter Hickman, Tipton, Mo.—I have had some experience with both the Osage orange hedge and the ornamental hedges. A well kept hedge is a good fence, but there is none worse than a poorly kept one. For ornamental hedge we use the common red cedar, and set the plants two feet apart, letting them grow to the desired height and then top and trim with pruning shears twice a year. This makes a pretty hedge and a good wind break. [The arbor vitæs are more rapid growers than the red cedar and make a better hedge. We have arbor vitæ trees now in the third year from the seed which are over four feet tall.—ED.]

G. W. Young, Girard, Kan.—Hedge fences are all right for the farm if properly managed. The hedge will not blow down, nor will the lightning strike and run along it and kill cattle. I have eighty acres with a hedge all around and one across the middle. I wanted to raise hogs in pastures and so I planted a piece every winter. Last fall I lapped half a mile, by hacking the stems near the ground so as to bend them down to about two feet high. I do not trim until the next winter. Then with a corn knife in one hand, and a stick in the other I cut the shoots and lay them along on top of the fence, and now have a good foundation for an all-purpose fence. To trim rapidly take a corn knife in each hand, using one to cut the sides and the other to cut across the top. With practice, one can trim rapidly.

SUMMARY.

The Editor has been through all the old Osage orange hedge furore of the early fifties, and then through the attempt to revive the hedge by a combination of wire and plants on which some parties claimed to have gotten a patent. They had local companies and agents running all over Virginia and elsewhere with beautifully colored plates showing the appearance of a place with the most perfectly grown and trimmed hedge. The agent got hold of the trustees of the Miller School of Albemarle Co., Virginia, where we were in charge of the Agricultural Department and the improvement of the large farm of 1,200 acres. They were delighted with the pictures and determined to plant three miles of the hedge. We vainly protested that we had been familiar with this kind of hedge for many years, and knew it could not fail to be a disappointment. But it was planted. This was over 15 years ago, and it is not a fence yet, except along a piece of moist and fertile bottom, where it saps the life out of every plant growing within twenty feet of it. One might possibly endure this if the Osage was a permanent thing. But it is naturally a large tree, and every effort to hack it down and keep it dwarf will here and there kill one (about the only thing that will kill them) and the result is unsightly gaps here and there. Then, when you discover what a fraud the thing is, and you want to get rid of it, your troubles will be just begun. Better have sassafras or persimmon or any other sprouting thing on your land than an Osage orange fence which you wish to kill. While the hedge will annoy you by a persistent dying out in spots when you want it to grow, when you want to kill it you will find it far more persistent in living. If one wants a really defensive hedge there is no plant that will compare with the hardy orange, citrus trifoliate. It is naturally a dwarf, bushy plant and severe pruning does not hurt it much, while its naturally grows so dense and has such an array of great thorns that it needs little pruning to make it turn anything larger than a sparrow. Then the roots ramble in a narrow space and do no harm to crops. This is a real orange which is hardy as far north as New York City. It is covered with white flowers in the spring, and generally makes a second and even a third crop. The little yellow oranges are pretty and fragrant, but are full of seed, and with little juice, and that bitter and sour. But they are ornamental. For an ornamental hedge the California privet is now being largely used. But it needs too much trimming to keep it in shape, and it loses its leaves in winter. The Amoor River privet is a much handsomer plant for a hedge, and is being largely used in the South for lawn enclosures. It gets slightly brown in winter, but does not lose its leaves. Mr. Meehan we believe doubts its hardiness at Philadelphia. We have another broad leaved privet of a very dense and dwarf habit, which is as evergreen as a holly. It came to us without a label and we are uncertain as to its proper name. It is either Lucidum or Japonicum. This we believe will make a fine evergreen hedge, and it stands the winter in Philadelphia. Two years ago last spring the Department of Agriculture sent us seed of two varieties of Arbor vitæ from Italy. These were sown, and now in the third season many of the plants are four feet high and none less than three feet, and promise to make much better plants for our climate than the Northern American Arbor vitæ. Ornamental hedges are beautiful when well kept. Farm hedges are not needed in these days of woven wire.

SCOURS IN CALVES.

SCOURS in calves can usually be traced to improper food or to improper feeding. The natural food of the young calf is liquid, and when solid substances are suddenly substituted, derangement of the bowels is apt to follow, which will result in diarrhœa. Hence, the necessity of changing food from liquid to solid substances gradually.

Water in which hay has been steeped, and bran, middlings and flaxseed meal added, forms a good substitute, as it is easily digested and very nutritious. Separated milk is almost wholly deprived of the fat, and a little flaxseed meal should be added to replace that taken from whole milk.

Milk that is allowed to stand for awhile not only forms acid, but also numerous cryptogamic growths such as mould, which are extremely poisonous and deleterious to the digestive mucous membranes, and is almost sure to result in scours.

Treatment.—The remedy in such cases is to avoid as far as possible irritating substances. It is much better to give milk in smaller quantities and more frequently. Milk that is excessively sour should be carefully avoided, or given in small amounts frequently.

Milk tanks should be thoroughly cleansed with scalding water and some alkali, such as bicarbonate of soda. As a remedy for scours, prepared chalk, 2 ounces; powdered ginger, 2 ounces; powdered opium, 2 drams, and peppermint water enough to make a pint, given in from one to two tablespoonful doses, two, three or four times a day, gives excellent results. Before the administration of astringents, such as the above, it is often of great value to give a dose of castor oil, olive oil or raw flaxseed oil, from two to four ounces, to remove irritating substances from the digestive tract.

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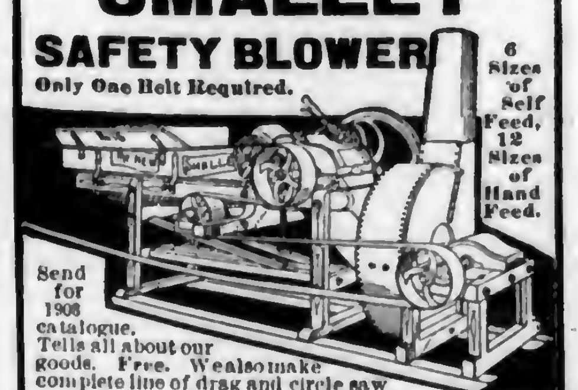

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In response to requests for large reservations to be paid for on the installment plan, we have decided, in order to accommodate all friends who have money outstanding which they wish to invest in our Society, to reserve any amount of shares, not to exceed $250 to a person, **for future payment,** provided your reservation is accompanied by a deposit of **at least 10 per cent.** of the total value of the shares you wish to take out; for example, to those of our friends who have requested us to set aside $500, we make this special proposition: Cut out the coupon below, send us 10 per cent. of the amount you intend to subscribe, and the balance in such monthly installments as may be most convenient to you, subject, however, to the acceptance of our Board of Finance.

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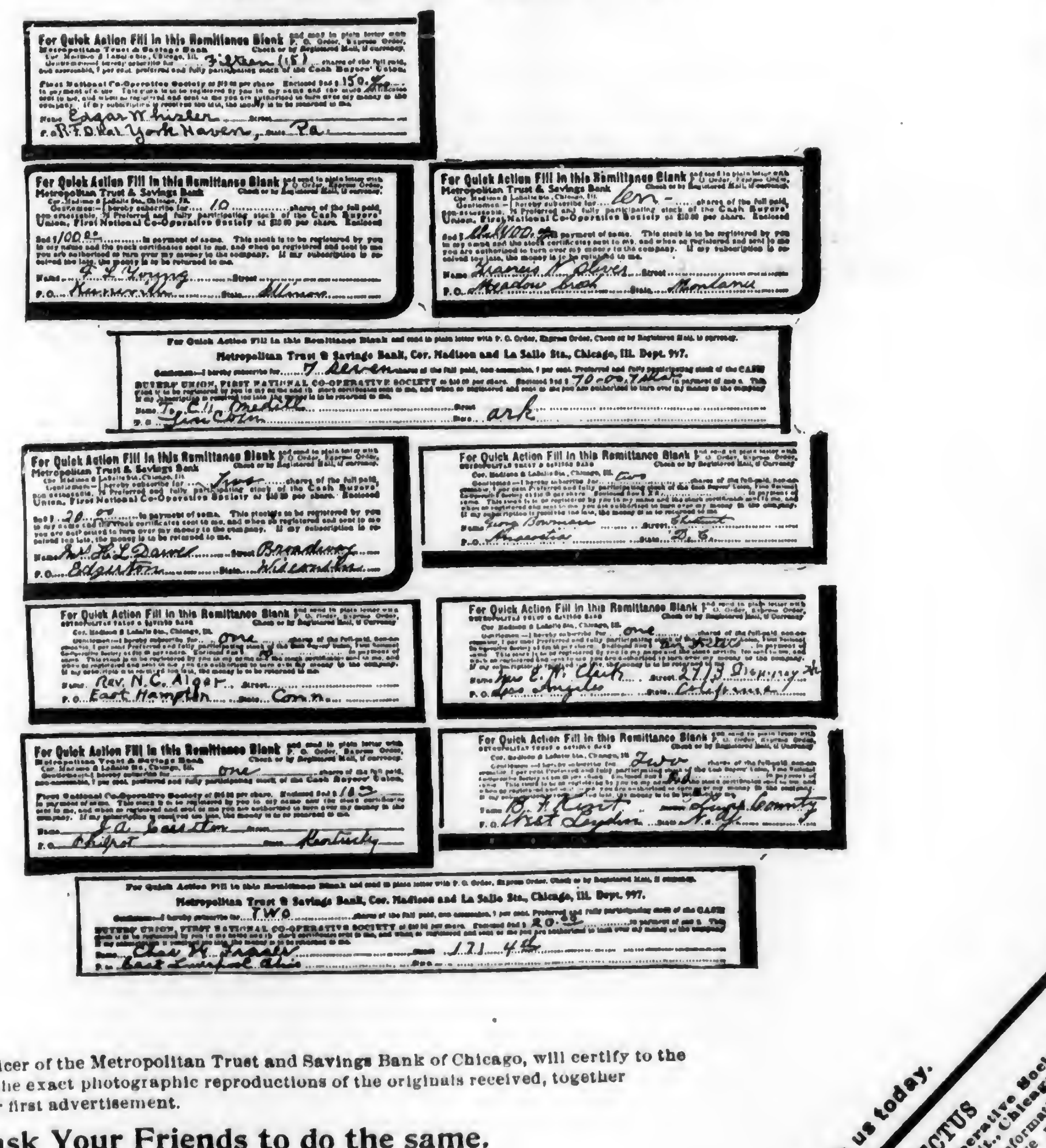

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Farm Implement Annex

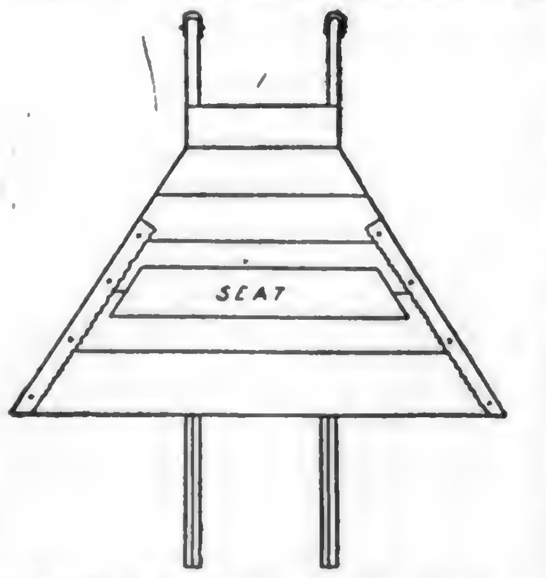
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Points on Buying Implements. — Some observations I have made in my experience may be of interest to P. F. readers. In buying a grain drill, one in which traction power is obtained from both wheels is preferable, preventing side draft. One of the best known makes utilizes but one of the wheels in obtaining its tractive power. We use the "Farmers' Favorite." This drill drives from both ends, has but little weight on the horses' necks, runs easy and we can always see just how the grain is dropping. The gearing is enclosed in a case, thus keeping out dust and dirt, and is easily oiled. After trying both the pivot axle and movable section two-horse cultivators we prefer the former, as it is more easily managed, particularly on a side hill, and we prefer one having five teeth in each section. Many disk harrows are very heavy on horses' necks, and the deeper they are set the more neck weight. Others have scarcely any. Always buy a disk harrow after trial. There is also a great difference in draft. Of the mowers we have used, the old-fashioned rear cut Johnson comes nearest our ideal. It is easy on the team, is the equal of any front cut mower we have ever seen for good work and may still be obtained. Our Acme harrow is every year becoming more indispensable. In general, we have found that the best is the cheapest in the long run; never buy a tool because it is cheap. Another point, many tools have only oil holes instead of oil cups, thus allowing dust and dirt to get to the wearing parts, causing them to wear unduly and shortening the life of the machine. Always buy on trial and pay cash, even if you have to borrow the money at the bank, is a good rule to follow.

R 6, Ann Arbor, Mich. A. W. SUMMER.

Corn Harvester. — A corn harvester, much used in this section, is made as follows: Take two 4x4 hard-wood pieces, 7 or 8 feet long for runners, round up under side of front ends and place them 27 inches apart. Eighteen inches from front end nail a board across, the board to be 27 inches long with square ends. Four feet back of this nail across a board 6½ feet long. Now nail boards between these two for a floor. Saw off each side diagonally from inner corners of first board to outer corners of last or long board. On these diagonal edges bolt pieces of crosscut saw blades, on upper side of floor, back of saw out, teeth in. The saw back when filed sharp does the cutting. Two feet from the front board place a seat 2 feet high and 3¾ feet long. To make the seat nail blocks to the floor; nail the upright boards 2 feet long to these and put seat across on top of these, bracing it well. Bolt a string gate hinge, the strap half, on top of each runner to hitch to. A chain with hinge bolts passed through the links does quite well.



Cut a row of shocks across ends of field for a turning ground. Cut one row across field by hand where each row of shocks is to stand, tying what is hand cut for beginning of shocks. With a man on each end of seat, start your horse between the two rows next to shock row. Each man catches the corn with his outer arm as he comes to it, dragging it on boat as cut and holding with other arm until arm is well filled. The horse is then stopped, corn set up and repeat. Gee about on other side of shock row on the return for easy turning of boat. A steady horse will soon learn to drive himself. Use no other. I saw a man thrown off and seat of his pants cut to rags—he escaped unhurt. Cut the down stalks and put with shock before using machine.

Davison, Mich. E. HOLLENBECK.

The Adaptation of Implements and Implement Users.—As it is true that the tools best adapted to any section may be found in most general use there, it is equally true that the laborers become men skilled in use of the tools they most need in doing the work which they are most accustomed to. For instance, in New England we find skilled hay makers, men who understand how to use to the best advantage all tools connected with the making of hay: from the hand scythe to the fork that stores the finished product away in the mow: while here in the South I find it almost impossible to teach the negroes how to swing a scythe or handle a fork or load a wagon, and when it comes to running a mower they are careless and indifferent. They will permit the knives to choke up and will make no effort to remove the obstruction, but will keep going till something breaks. On the other hand the negro will take a mule and a "scooter," which is a small one-horse plow that merely scratches the ground, and will run it among stumps where a Yankee would break it in 15 minutes. From the scooter plow it is not a difficult evolution to the two-horse turner, and many of them become skilled plow hands. The same may be said of the cultivator, and many of them do better work from constant practice on these large plantations than do many of the New England farmers. In guiding the mule they use a ⅜-rope plow line, and instead of running it through the rings on the hames it is passed over the trace between the hames and backband. It ends in a loop just long enough to reach the plow or cultivator handle. The operator slips his hands through these loops and grasps the handles of his plow. He then has to lift but one hand from the plow at a turn to guide his team in either direction; a much more convenient arrangement than having the reins over the neck. In using a pair of mules, instead of the ordinary brace lines, as used on the wagon harness, the outside lines are arranged as described above, while the heads of the two mules are connected by tying a short rope (or sometimes a stick if the mules are inclined to crowd) to the inside ring of each bit. Each section of the country can teach something to other sections.

Decatur, Ga. M. E. BEMIS.

Chicken Feeder.—Take four pieces 2x4 12 inches long for the corners, nail three laths on each of the four sides and cover the top with lath, first nailing a 1x3 board around the top to nail lath to. This makes it large enough to accommodate fifty chicks. With this arrangement in use the old hens cannot get to the feed and eat it all away from the chicks. Figure 1 represents the feeder and Figure 2 a very convenient drinking fountain.

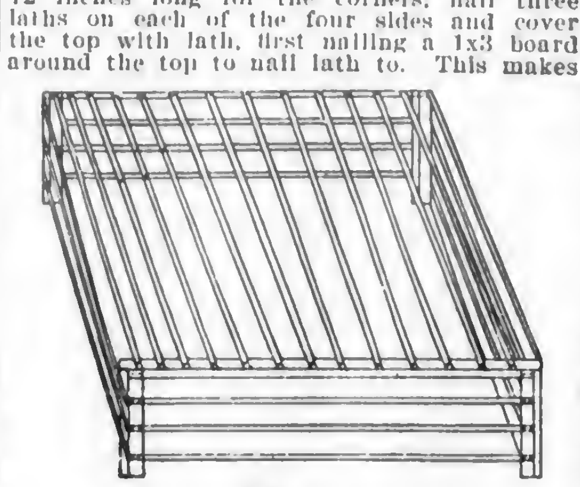


Fig. 1.

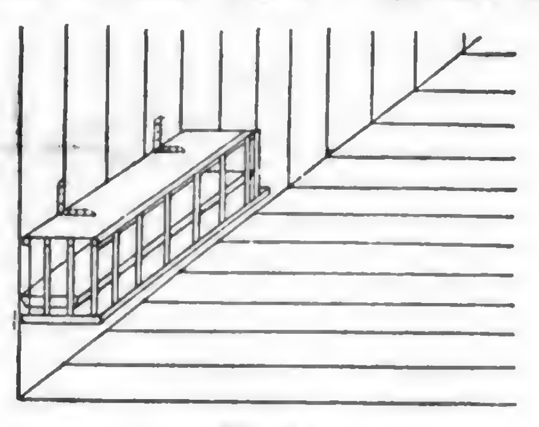


Fig. 2.

B. C. GRANT.

Corrnna, Mich.

A Chat About Grain Drills. — Five years ago I had the misfortune to lose my barn by lightning, with all farming tools, including a Superior grain drill which I had used three years without it costing a cent for repairs. The next spring my neighbors wanted me to get another, so I sent for several catalogues and went to see many different kinds, finally selecting the same kind I had before, as it can be adjusted so easily. I have run 120 pounds of fertilizer on one end of a piece, none in the middle and 200 pounds on the other end without stopping my team. Have drilled popcorn every six inches, in rows three and a half feet apart. Also acres of field corn and all other grains; from 125 acres up to 300 acres each year since I got it, and $2 will cover all expenses for repairs.

Wattsburg, Pa. A. J. MERRY.

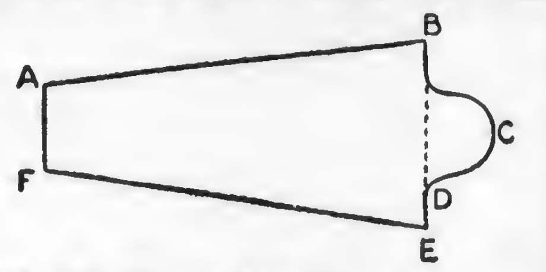
Winged Shovel Plow.—The best labor saving tool that I ever used in hilling potatoes, one doing its work to perfection, is the winged shovel plow. This is simply a shovel plow with wings about 4 or 5 inches wide and 12 inches long attached to the upper corners of the shovel mole, with a stay rod across rear ends of wings to hold them in place. One man or boy and a horse can hill a row to perfection at every round, or can make a sweet potato ridge at a round. There are dozens of farmers who never saw one of these plows, but go on breaking their backs digging up dirt to the hills with a hoe. The cost of one of these plows is very little as compared to labor saved.

Barrackville, W. Va. E. R. I. FREELAND.

Planet Jr. and Attachments. — We bought a Planet Jr. 12-tooth harrow, cultivator and pulverizer. The pulverizer levels the soil, steadies the cultivator and in conjunction with the wheel lever regulates the depth to the fraction of an inch. For destroying large weeds that cannot be killed by the cultivator teeth, we have one 15-inch sweep and two 10-inch hoe steels, for which the blacksmith made standards, as the Planet Co. does not make standards for this tool. The 15-inch sweep is placed in the centre about a foot back of the wheel, the hoe steels being placed on either side behind after removing the small teeth. These knives cut off all weeds just below the surface of the ground, and the pulverizer drags them out and leaves them on the level surface to die. We also have an attachment for making irrigating ditches, which is merely a large cultivator shovel attached to a steel arm running back from the outside arm and made fast by the bolts which hold the hoe standard to the frame. This cultivator will expand to 32 inches, contract to 12 inches, weighs complete about 75 pounds and costs about $12.

Mission, Wash. A. A. WRIGHT.

Egg Tester.—This article is a great convenience; almost a necessity you will say after one season's use. I send a pattern of one that can be made at home from piece of an old boot leg or any material that is slightly flexible and will exclude light. Something black is best. Have the material cut about 12 inches square and fold in centre to make the line from A to B. Distance from C to line A F is 11¾ inches. From A to F is 3 inches; from F to E 9 inches; from E to D 1 inch; from E to B 6 inches; from A to B 10¼ inches. Sew edges together, making a narrow seam. Hold it up to your eyes as a tube with B in middle of forehead and flaps C fitting close to your temples. With one hand hold the egg against smaller end of tube, A F, and toward bright sunlight. An egg that has been set on 7 days will show unmistakable signs of life. Experiment on one sitting, testing every day after the fifth. It is most fascinating to watch developments. The biddy that steals her nest can be timed exactly and food and water provided so she will not leave the nest after hatching one or two. Set six or eight hens at once, and in a week you can throw out all infertile eggs, and perhaps have room for a new sitting. You will thus, by the use of this little instrument waste no time with bad eggs. A fresh laid egg shows no air space in the end. Watch it every day for a week and learn to tell stale eggs.



Downey, Cal. MRS. O. P. TOWNE.

From a User of the Disk Plow.—I purchased a Hapgood-Hancock disk gang plow last fall, which gives entire satisfaction. It is very light of draft considering the amount of work done, cutting 24 inches. I use three horses and go along steady all day, plowing 5 acres a day easier than I can plow two acres a day with 12-inch moldboard plow. The frame is close to the ground, bringing down weeds and sprouts and putting them out of sight. It will cut sprouts 2 inches in diameter, does not choke and will not jump out of the ground in stony land as badly as a moldboard plow. You can change from gang to sulky in a few minutes and pull it with two horses, cutting 12 inches (usual depth 6 to 8 inches) with about one-half less draft, and do better work than can be done with any moldboard plow on the market.

Russellville, Mo. R. H. SHORT.

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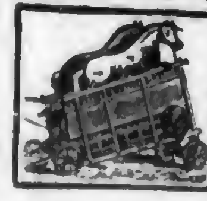
NO MAN IS STRONGER THAN HIS STOMACH
DR PIERCE'S GOLDEN MEDICAL DISCOVERY MAKES WEAK STOMACHS STRONG



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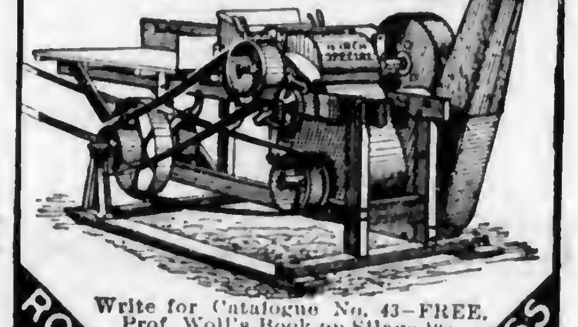

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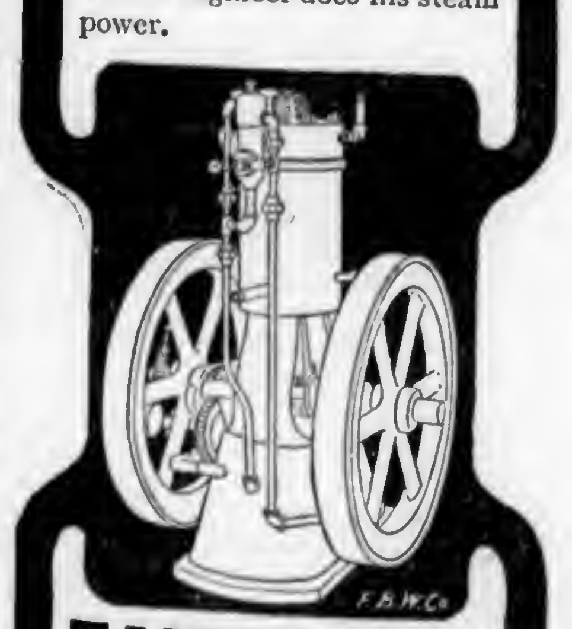

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show the highest efficiency of any make. Strong, durable, widely adaptable. They are characterized by little friction and smallest loss of power. Vertical Engines, 1 to 10 h. p. Horizontal, 3 h. p. up. Stationary or mounted ready to travel to its varied farm duties. Let us send you free catalog.
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OUR PREMIUM DEPARTMENT.

WE repeat our boys' premium this week. Fall hunting will soon be here and every boy wants a good gun. Well here is an excellent opportunity to get a first-class rifle, and all it will cost is a little work. Any bright boy can get up a club of 15 yearly subscriptions to the P. F. at 50 cents each, and thus secure one of these rifles. We have cut the subscription price of our paper in two, so that it will be as easy as rolling off a log to make up a club in your neighborhood. Send for sample copies and subscription blanks now, and a couple of days' work ought to produce the club and bring the gun.

No farmer ought to be without a good platform scale. Without it he is at the mercy of the buyer or seller, as the case may be. It will pay for itself many times over in a year. We have a few of the Practical Farmer Portable Platform Scales, described on this page. Read the description and see if they are not just what you want. Ten dollars pays for one, f. o. b. on the cars here, or we send one free for a club of 40 subscriptions to the P. F. at 50 cents each. We would rather send them for the clubs than sell them outright.

There is plenty of warm weather in sight yet before the summer closes, and if you have not got a wickless blue flame oil stove you should send for one right away. You will find that the good wife after she has once given it a thorough trial, will prefer to use it right along, summer and winter. It beats the wood or coal stove or range all to pieces.

There are several farm books advertised on this page. We consider Prof. Massey's "Crop Growing and Crop Feeding," one of the most valuable and useful agricultural books ever published. No farmer should be without it. It tells the whole story of growing crops and improving the land at the same time, in such a simple and yet comprehensive manner that every soil tiller can understand his business better for the reading. The other books will also be found of value to every farmer. In fact, the whole four books should form a part of every farmer's library.

The agricultural fairs are excellent places at which to raise clubs for the P. F. From week to week we offer on this page attractive premiums, some for small and others for large clubs. Look over your back numbers, choose the articles you would like and then raise the necessary club at your nearest fair.

Something for the Boys

We want the boys to go to work for the P. F. and here is their chance. We have selected one of the

Best Rifles

Made by one of the most reliable companies in the United States, as a premium. The barrel is standard length, case hardened frame, single trigger with oiled walnut stock and rubber butt plate; the whole weighing 3¾ lbs. It has an automatic kicking ejector, doing away with the operation of picking the empty shells from the chamber. The rifle can be "taken down," so as to be carried in a trunk, grip or small package. In a nutshell, just the thing for the boys. We will give one of

THESE RIFLES FREE

for a club of 15 yearly subscriptions to the P. F. at 50 cents each. The club raiser must pay freight.

Send for sample copies and start in at once, so as to get a rifle for the fall hunting.

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Originally published in
The Practical Farmer, Philadelphia.

Practical discussions on farm crops and products by work-a-day farmers.

Edited by Prof. W. F. Massey

A complete Farmers' Institute covering every phase of farm work. Discussions on practical topics applicable to the detail work of the farm. Participated in by successful soil tillers in every section of the United States and Canada. With full index.

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Short and quick ways of doing things on the farm and in the home. Discussions on crops and stock, by experienced farmers from Maine to Mexico. How to make the most of farm machinery and implements. Mistakes, failures and successes on the farm; told by those who have made them. With full index.

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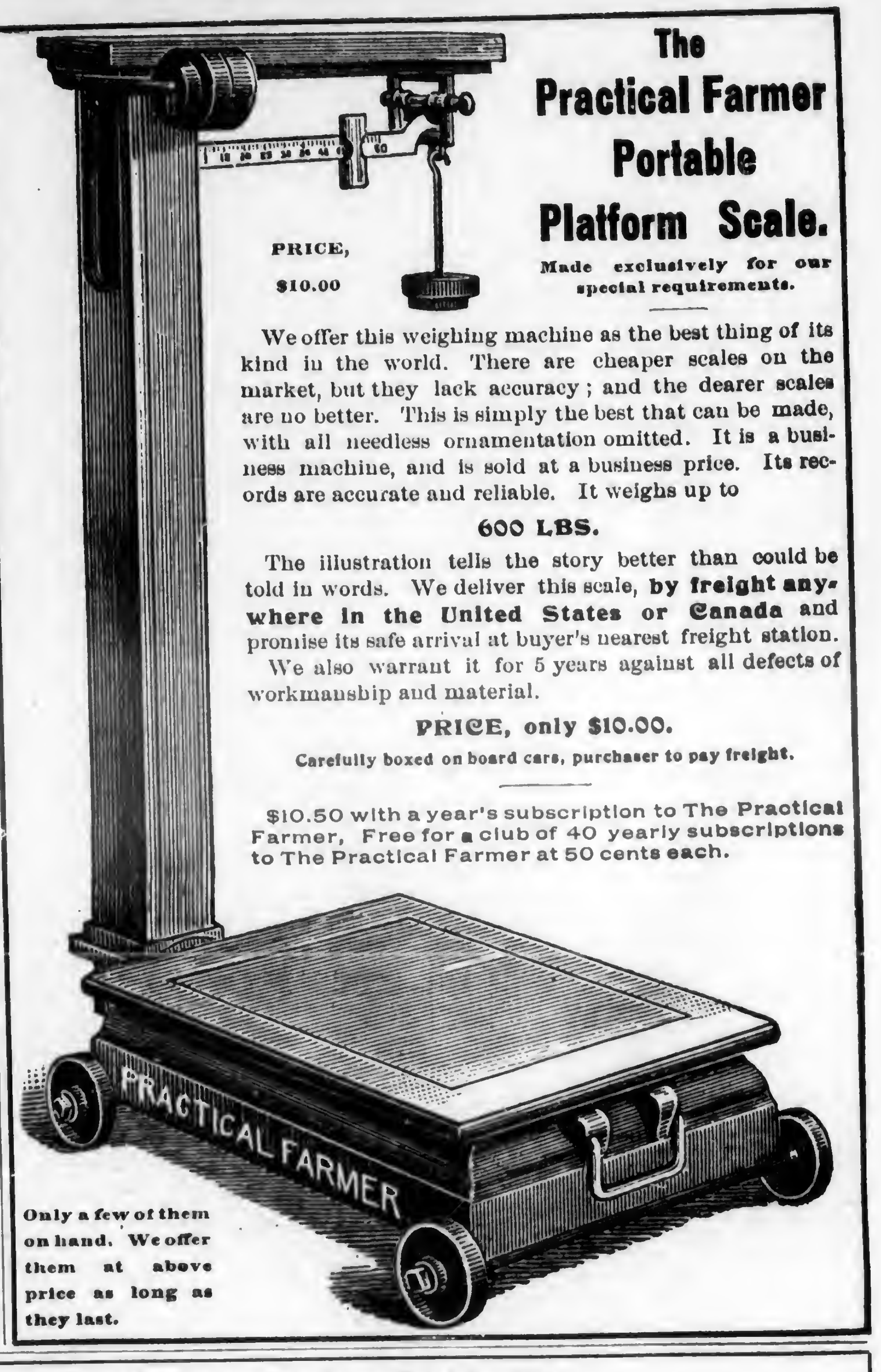

The Practical Farmer Portable Platform Scale.

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PRICE,
$10.00

We offer this weighing machine as the best thing of its kind in the world. There are cheaper scales on the market, but they lack accuracy; and the dearer scales are no better. This is simply the best that can be made, with all needless ornamentation omitted. It is a business machine, and is sold at a business price. Its records are accurate and reliable. It weighs up to

600 LBS.

The illustration tells the story better than could be told in words. We deliver this scale, **by freight anywhere in the United States or Canada** and promise its safe arrival at buyer's nearest freight station.

We also warrant it for 5 years against all defects of workmanship and material.

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Carefully boxed on board cars, purchaser to pay freight.

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Only a few of them on hand. We offer them at above price as long as they last.

Save Money and Keep the Kitchen Cool by Using

WICKLESS A Practical Farmer Brightest and Best, Blue-Flame OIL STOVE

The illustration shows the popular high cabinet style with step. Those who prefer this stove without the step will be suited by No. 453 and No. 452. Where a low cabinet stove is wanted, No. 353 and No. 352, specially designed for limited space, without step or shelf, and only 15 inches high, will give the best satisfaction possible.

Prices include prepaid freight charges East of Rockies. West, add $2 for extra freight charges.

For further information write for our illustrated price list of stoves and ovens.

GIVES MORE SATISFACTION THAN ANY OTHER STOVE.

The stove recommended by Mr. Terry.

BRIGHTEST AND BEST

Stove and oven delivered, prepaid, East of Rockies, for 50 subscribers at 50 cts. each.

OIL STOVES SAVE HEALTH WORK TEMPER MONEY

Satisfaction always guaranteed

The above illustrates Wickless Oil Stove No. 465. Price, $13.25.

Nos. 453 and 452 are same style as Nos. 465 and 464, but have no step burner. Height, top and dimensions the same.

Stoves handsomely finished in black enamel, with trimmings heavily nickeled.

No. 465. Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 100 pounds (see cut). **Price, $13.25; with oven, $16.00.**

No. 464. **Three burners.** Height, 28 inches; top, 18x25 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 85 lbs. **Price, $11.75; with oven, $14.50.**

No. 453. **Three burners.** Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; Weight, crated, 75 pounds. **Price, $10.75.**

No. 452. **Two burners.** Height, 28 inches; top, 18¼x26 inches; shelf, 7x22 inches. Weight, crated, 60 pounds. **Price, $9.00.**

Cabinet style (like 465) without step and shelf but only 15 inches high.

No. 353. **Three burners.** Weight, crated, 65 pounds. **Price, $9.00.**

No. 352. **Two burners.** Weight, crated, 50 pounds. **Price, $7.00.**

ORDER NOW AND GET YOUR STOVE BEFORE THE RUSH COMES.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located 4½ miles east of Shelbyville, Tenn., the county seat of Bedford Co., on the N. C. & St. L. R. R. Good, healthful country. This Duck River Valley has good, rich farming lands. Wheat, 80c.; corn, 65c.; oats, 30c. per bu.; butter, 12 to 14c.; side bacon, 12½c.; hams, 12c.; shoulders, 10c.; hogs, 5c.; sheep, 2½ to 3c.; lambs, 3 to 4c. per lb. Prospects fair for good corn crop and pasture. The P. F. should be on every farmer's reading list. W. H. Young.

R 4, Shelbyville, Tenn., Aug. 17, 1903.

We have had rainy weather for the past three weeks, but have threshed wheat and oats, which were a poor crop, and harvested hay. Pastures and corn in good condition. Corn selling at 60c.; wheat, 80c.; potatoes, 50c.; onions, 40c. per bu.; hogs, 5c.; cattle, 3½c.; sheep, 2½c.; chickens, 6c. per lb. Farmers are getting along nicely with fall plowing for wheat and grass, of which there will be a large crop sown. J. S. Bracken.

Prentis, Ky., Aug 17, 1903.

Weather hot, with frequent showers and much thunder and lightning. Very few pineapples are being shipped now. Everybody is busy setting out slips, which are fine and abundant this year. The mosquitoes have not been very bad so far this summer. No vegetables can be raised here in the summer. The sun is too hot even when there is plenty of rain. Irish potatoes, 50c. a peck; butter, 35c. per lb.; eggs, 25c. per doz. Very few cows are kept here; feed is so high we use condensed milk. A. I. McDonald.

Ft. Pierce, Fla., Aug. 17, 1903.

Forsyth Co., 6 miles east of Winston-Salem. Early drought caused corn and tobacco to be started two weeks late. Condition of crops, considering 100 average: Corn, 90; tobacco, 110; hay 110; wheat crop yielded in straw, 75, in grain 50; oats, 60; potatoes, 75; fruit crop, peaches, 0; apples, 25; pears, 25; grapes, 75; vegetables, 100; melons, 50; progress of work 100. Stock and cattle command a good price. Farm labor scarce. Farmers in a prosperous and cheerful condition. Robt. F. Linville.

Winston-Salem, N. C., Aug. 15, 1903.

I live 5 miles from R. R., 10 miles from Lexington, the county seat of Henderson Co. We have two railroads; plenty of timber and very fine freestone water, mostly in wells. Our land is somewhat sandy, with clay subsoil and is very well adapted to cotton. Corn, wheat, oats and potatoes do well, and strawberries and tomatoes are raised for shipping to some extent. Horses from $50 to $150; mules about the same; cows, from $15 to $30 each; beef cattle, 2½c. gross; hogs, 5c. per lb.; corn, 50c.; wheat, 75c.; oats, 40c.; potatoes, 40c. per bu.; land, $2 to $50 per acre, according to location and quality. J. W. Sparkman.

Middle Fork, Tenn., Aug. 17, 1903.

Weather very pleasant, with frequent showers, which are helping corn and tobacco a great deal. Corn badly spotted; tasseling out very low; will not make two-thirds of a crop. Threshing mostly done; yield below average. Fruit scarce; some apples but peaches a failure. Principal crops are wheat, oats, corn, tobacco and hay. Prices: Wheat, 75c.; oats, 35c.; corn, 50c.; potatoes, 50c.; apples, 50c. per bu.; flour, $2; meal, $1.20; bran, 75c. per cwt.; hay, $12 per ton; horses, $75 to $150; cows, $30; pigs, $2.50 each; fat cattle, 5c.; hogs, 5½c.; butter, 15c. per lb.; eggs, 12c. per doz.; wages, 75c. per day, $15 per month; teachers, $33 per month; girls, $1 per week; land, $10 per acre and up, according to quality and improvements. More P. F. readers here now than formerly. Wm. C. Graham.

Cedar Mills, O., Aug. 18, 1903.

Located in Warrick Co., 5 miles west of Boonville, the county seat. Have had plenty of rain and farmers plowing for wheat. The past wheat crop was exceedingly poor through this section. Fruit almost a failure; has been plenty of blackberries; few peaches; a fair crop of apples. Prices as follows: Wheat, 80c.; corn, 55c. per bu.; timothy hay, $15 to $17 per ton; hogs, $5.40 to $5.55; cattle, $3.85 to $4.15; lambs, $4.50 to $5 per cwt.; chickens, 10c.; butter, 10 to 15c. per lb.; eggs, 10 to 12c. per doz. Mrs. A. J. Sanders.

R 5, Boonville, Ind., Aug. 17, 1903.

Located in Pasco Co., Fla., 2½ miles west of Dade City. Principal industry is trucking for Northern markets. Season has been very good, and the truckers are in good spirits. Farming and stock raising are on the increase. Quite a number of P. Fs. come to our office; we need more; we also need a farmers' and truckers' organization. Plenty of raw land at from $2 to $15 per acre; wages, $1 per day; horses, $50 to $150; cows, $30 to $70 each. Good farmers and stockmen needed. W. J. Field.

Dade City, Fla., Aug. 15, 1903.

Located in north central part of State. Too dry at present time for the growing crops. Wheat mostly threshed, yielding about half a crop of fair quality; oats making about one-half yield of poor quality; so light that a bushel and a half fills a 2-bushel sack; some fields of corn looking well; others drowned out in June; biggest rain in June here that we have had for years; 6 inches fell in one night. Prices: Wheat, 70c.; oats, 30c.; corn, 45c. per bu.; timothy hay, $6 per ton; eggs, 14c. per doz.; butter, 15c. per lb. Edward Lindsey.

No Manchester, Ind., Aug. 17, 1903.

Located in York Co., 4 miles east of York, the county seat, in Kreutz Creek Valley; soil black limestone; very productive. Farm laborers scarce on account of limestone quarries, which are worked extensively. Plenty of rain at present, but was dry at planting time. Wheat yield ordinary; oats poor; corn looks well; apples and pears are plentiful, but peaches are a failure; potatoes will yield well, but are rotting in the ground. Prices: Wheat, 75c.; rye, 53c.; oats, 37c.; corn, 61c. per bu.; butter, 18 to 20c. per lb.; eggs, 20c. per doz.; potatoes, 50 to 60c. per bu. Long live the P. F. Harry W. Landis.

Stony Brook, Pa., Aug. 17, 1903.

Located in Monroe Co., Ill. The weather is very pleasant. Corn crop looking better, but will make but one-half crop; wheat yielded but 3½ bushels per acre; oats 10 bu.; young clover and timothy looking well. Farmers are busy plowing and getting ready to sow their next year's wheat crop. Potatoes are poor and scarce at 60c.; wheat, 75c.; corn, 60c.; oats, 50c. per bu.; hay, 50c. per cwt.; hogs, 4½c.; calves, 4c. per lb.; milk, 65 to 70c. per cwt.; cows, $40 to $50; horses, $75 to $100; mules, $100 to $200 each. No fruit of any kind to amount to anything; few apples. Success to the P. F. Lewis J. Gregson.

R 2, Red Bud, Ill., Aug. 15, 1903.

Located in South Central New Hampshire, on two lines of the B. & M. R. R. system. We had a cold, late spring, followed by eight weeks of warm, dry weather; then two weeks that the sun did not shine more than an hour or two a day, and many days not at all. The crop outlook is very poor, except hay and oats; corn a total failure in 99 cases out of 100; late potatoes will be good, although we have some blight; early potatoes 50 per cent. of average; hay not nearly all cut. Haying help, $2 to $2.50 per day and board, and scarce at that. Lee M. Wilson.

Hancock, N. H., Aug. 17, 1903.

Located 2 miles southwest of Owensburg, Daviess Co., Ky. Are having plenty of rain here at this time. Crops fine. Principal crops are tobacco, wheat, corn, oats and hay, all promising 100 per cent. of a crop, except wheat and oats, which are about 50 and 25 respectively; potatoes are also fine. Prices: Corn, 60c.; wheat, 75c.; oats, 28c.; potatoes, 40c. per bu.; timothy hay, $10; clover, $8 per ton; butter, 25c.; chickens, 9c. per lb.; flour, $4.50 per bbl. Fruit crop light, except apples, which are good; vegetables of all kinds are plentiful. Land sells high; from $75 to $200 per acre. Market for everything good; general prosperity. Chas. Barrow.

Owensboro, Ky., Aug. 17, 1903.

Located 13 miles northeast of Shelby, the county seat of Cleveland Co., N. C. Excessive rains in spring prevented early planting of crops. Consequently all crops are late. Crop conditions compared with last year's crops are about as follows: Wheat 50; corn, 75; cotton, 75; oats, 80; rye, 80; Irish potatoes, 75; sweet potatoes, 90; sorghum, 65; garden truck, 90 per cent. Prices as follows: Land, $10 to $50 per acre; corn, 90c.; wheat and rye, $1 per bu.; horses and mules, $40 to $125 each; butter, 12½c.; bacon, 15c. per lb. Weather has been too dry for growing crops, but good season now. Fruit crop fair. P. F. well represented. A. G. Higgins.

Belwood, N. C., Aug. 18, 1903.

CAYUGA Co., N. Y. Fine 122 acre farm in Venice Township for sale cheap. Address, C. HOWLAND, CATSKILL, N. Y.

WRITE FOR FREE CATALOG On Rumely Reargeared Traction Engines and new Rumley Separators. Full of Thresherman's Logic. M. RUMELY CO., LA PORTE, IND.

THE DRAINAGE OF FARMING LANDS Valuable free book mailed to any one interested. Address JOHN H. JACKSON, ALBANY, N. Y.

WELL MACHINERY Catalogue FREE Loomis Machine Co., Tiffin, Ohio.

GEM FULL CIRCLE STEEL BALER Lightest, Strongest, Cheapest. GEO. ERTEL CO., QUINCY, ILL.

GINSENG seeds and roots for sale; for planting; best cultivated stock. Order at once, as stock is limited. LOUIS BRODIE, Hopkinsville, Kentucky

Swan's Standard Roofing Fire- Wind- Waterproof Put on with knife and hammer. Sample free. A. F. Swan Co., 115 Nassau St., New York

FOR SALE. Finely ground Phosphate rock, containing a high percentage of phosphorous, which has been recommended by the Experiment Stations of Maryland and Illinois. Prices and phamplet of information will be sent on application to ROBIN JONES, 14 P Steger Bldg., Nashville, Tenn.

BIG SELLER FOR GOOD AGENTS THE FOSTER STEEL STANCHION Best cow fastener. All metal. Strong, durable and convenient. Liberal terms to hustling agents. Ask for circular No. 21. Frank H. Battles, Seed Grower Rochester, N.Y.

FAST CUTTING with elevating and carrying devices that work right are the main points in silo filling.

Cut four lengths. Strong self-feed. Safety and anti-clogging devices.

GALE-BALDWIN AND BALDWIN Ensilage and Dry Fodder Cutters, the most rapid of all cutters, elevate to any height, straight away or side delivery, and do all with smallest amount of power. Savers of time and money, built to last indefinitely. Close study shows them superior in all ways. Ask for catalogue. THE BELCHER & TAYLOR A. T. CO., Box 80, Chicopee Falls, Mass.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Want tenant for 200 acre farm, Sussex County, Delaware. Near P. O., R. R., &c. Good opening for good man. S. Kenney, 2160 North 21st St., Phila., Pa.

Wanted. A position on a farm. Single, age 22, worked on farm since childhood; not afraid of work; use no tobacco or liquor. M. W. Eisenhower, Alliance, Pa.

For Sale or Exchange. Scientific corn harvester, has been used two years, good as new. Will exchange for hay tedder or two-horse corn planter. Otto Smith, Iris, Ind.

Position Wanted as shipping clerk. 7 years with one firm. Strictly temperate and steady. A 7 year recommend. Address, M. B., Box 98, Monour Falls, New York.

Wanted to Exchange. New 200 egg size Standard incubator for a good coal stove; also Hapgood Disk Gang Plow for sale or exchange. Lee Grover, Route 1, Harvard, Ill.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. Arndt, Hardy, Ark.

260 Acre Farm, well watered, fine timber, good orchard, large brick dwelling, barn and outhouses. For further particulars apply to L. H Rieley, Lisbon, Bedford Co, Va.

263 acre stock and tobacco farm in Clement Co., Ohio. On the east fork of the little Miama River; 25 miles from Cincinnati, near 2 traction lines; 1 brick house, 19 rooms; 3 tenant houses, 2 tobacco and 1 grain barns; 75 acres timber, plenty water. Price, $50 per acre. George R. Martin, Woodlawn, Ohio.

Farm For Sale. 120 acres located in village of Mansfield, half way between Boston and Prov., two of the best markets in New England. This is a high class truck and dairy farm, and one of the best hay farms. Splendid chance to keep poultry; variety of choice fruit; large 11 room house, 2 barns, 1 new, 40x58; town water in house and barn, town lights; 1 mile to station and post office. Price, $5000. James Waterous, Mansfield, Mass.

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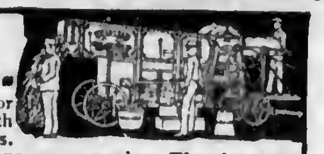

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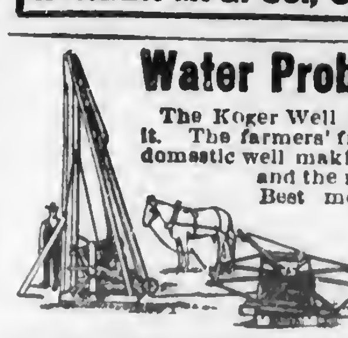

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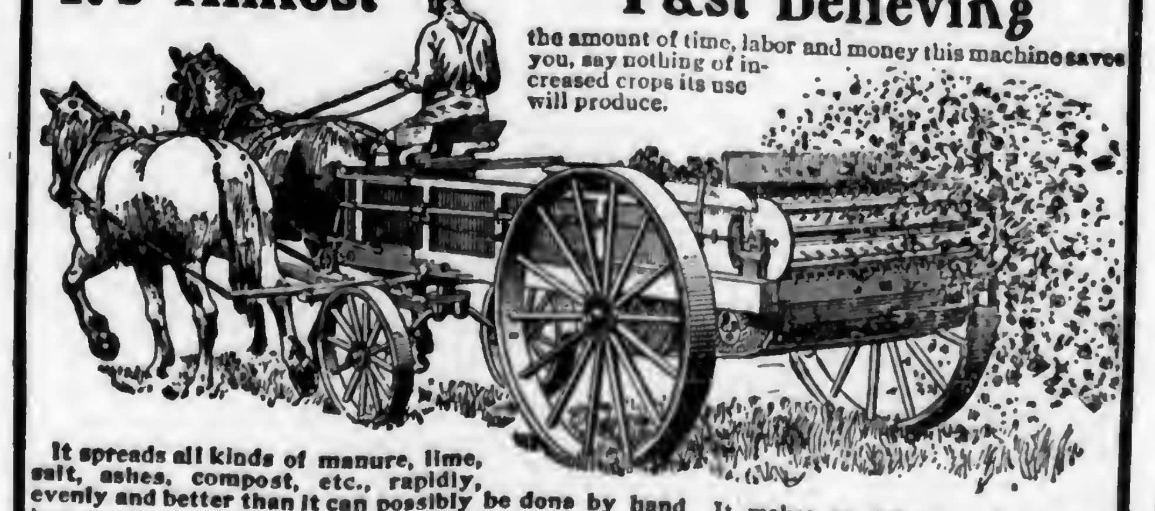

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THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Damage Done by Weeds in New Seeding and Elsewhere.

F. M. Ashworth, Eaton, O., asks if it will pay to mow weeds in wheat stubble. He writes that they are getting a good start, and he wants to know which will be the better for the land, to mow them, or leave them to mature. I am not told whether the land is seeded with clover or grass, or not; but I presume that it is, and in this case something should be done at once. Weeds are ranker growers, that is they will take their share of plant food first, thus robbing the crops you want to have do well. Again, unless there is a great abundance of rain, the weeds will use up the water in the soil. It takes something like 400 pounds of water to grow one pound of dry material in weeds. That is if you cut the weeds and dried them thoroughly, and had a ton on an acre, about 400 tons of water were taken out of the acre of land to grow them. This will explain the failure of seeding in dry falls on thousands of farms where weeds are allowed to grow and mature in winter wheat stubble. All crops take their food dissolved in water; very little food and very much water. We say they eat, and speak of plant food, but more correctly speaking they drink and live on the trace of food dissolved in the water. This water is drawn up into the plant, the little food in it is retained for making growth, the pure water left is sent out of the leaves into the air. Clover requires even more water than weeds do. We may go a little farther. Weeds being of ranker growth, thriving with very little chance, may soon make a shade that will almost or quite destroy the less hardy clover and grass. Now these are all well known facts. Would not good business judgment tell us to keep the weeds from growing and let the seeded crop have the best possible chance? And this particularly on land that is not over fertile, and also in a dry season. On such land growing weeds are robbing the crop of needed food, and of water to dissolve it so the crop can get it, and discouraging the crop by the shade they make. To change all this one has only to mow off the weeds as soon as they get from 8 to 12 inches high in the stubble. Then one stops their doing harm and forces them to do him good. Yes, the clippings of the weeds, and of the wheat stubble, falling on the surface make a mulch there that will be helpful to the seeding. Remember the clipping is to be done before the weeds get tall enough to make so much mulch as to smother any of the crop. Also one should be careful to not leave any bunches of clippings drawn together by the track clearer that would injure the crop beneath. My practice was to take off the track clearer, and if I did happen to make a bunch to get off at the time and spread it. Better set the mower knife as high as you can and have it do good work. If cut early these weeds will decay and there will be almost nothing to rake up in the hay the next season. Some years it may be best to mow the weeds off twice. In such a case the last mowing should always be early enough to allow of a good fall growth of clover afterwards. With this little care one may have a beautiful stand of clover, even and thick all over the land, instead of a crop of weeds, the seeds of which will make future trouble, and more or less of a failure of seeding.

It is too late now to mow weeds when they should be cut. The next best thing now in the latitude of Ohio, or further south, is to mow the stubbles at once and make hay of weed and clover and grass growth. Mow rather high. If the hay is not worth putting in the barn, stack it, and feed it out on some poor field. Probably stock will eat a good share of the hay. Let it lie until well cured. It does not injure in the dew readily this time of year. It is to be hoped that weeds are not far enough along so the seeds will grow; but I should cut them anyway. They will go to seed where they are growing. And cut at once, so the seeded crop can have the fall to make a good start. And then one will not have the rubbish in the hay next year. Cutting much later may cause more injury to the seeding than it does good. Weeds dying down are a protection to young clover, but they hurt it seriously before they protect it, and usually the clover will need no protection if it has a chance to make a good growth. The fall growth, made after the weeds are cut, will die down as winter comes on and protect the plants nicely. Do not allow any stock to go on this young clover and eat the crop. For every dollar you get that way this fall you may expect to lose $5, or more, next year, in quantity of hay and increased fertility to the land. Now what has been said above about the injury weeds do growing in a new seeded field applies also to every crop. It pays to fight weeds persistently in all crops. They are nearly always robbers. They rob many a brother of far more money than he pays for taxes. And sometimes he growls considerably about high taxes, which he can't help, and goes on paying a heavier tax to weeds, which he can readily help. A cultivated crop should be kept practically clean, as a rule. With weeders, harrows and cultivators, used on time, this can be done by horse power, usually at less than no cost. That is, the extra tillage will increase the crop more than enough to pay for the labor. When putting in a crop, fall or spring, work the land long enough, and make it fine and firm enough, to start the weed seed growing; then harrow and kill them. Sow only clean seed. Mow all stubbles on time, if any weeds grow. This is no mere theory. I have been over all this ground, and gradually cleaned the weeds out of a terribly foul farm. In time the stubbles became quite clean without mowing. Certainly we have had 12 acres of potatoes that one could carry all the weeds to be found in the field after they were laid by and covered the ground. And this without handhoeing, only at the ends, except in exceptional years. Later we would go through and cut off the tops of the very few weeds that had not been killed by our cultivation so they would not go to seed. Perhaps some may be satisfied with small crops, with failure in seeding often, and trusting to luck generally. Possibly some are so situated that they cannot do better. But the writer always preferred to undertake no more than could be well done most any season, and then do his best. It has paid him in money and in satisfaction. When my friend, Prof. Shaw, called here once he looked all around, by the roadside as well as in the fields, pretty closely. At last I asked him what he was looking for. He replied, "I am trying to find some rag weed," the most common pest of this section. It was not here, practically, and still, 15 years before, there wasn't much else to be seen in the fall. We had mowed the roadsides as well as the stubbles before the weeds went to seed. You were told above that weeds were nearly always robbers, or injurious. Perhaps you think the "nearly" should have been left out. No, weeds may be made to do you good sometimes. If land would otherwise be bare, and nature sends up a thick crop of weeds, and you turn them under before they go to seed, or mow them and leave the growth to decay on the surface, the weeds will be a help about keeping your land fertile. You might do better, but they can sometimes be made useful. They make vegetable material to be added to the soil. Weeds are often a blessing, to cover land that would otherwise lose fertility faster by lying bare, and to make us work our crops more to keep them down. The friends mentioned that cannot at present do better than let weeds rob them are often found in the new settled country in the West. They have made a payment on a farm and from lack of capital simply have to half do their work and take what comes for a time. They grow mostly a single crop, perhaps, and without help except at harvest time. As soon as they can bring it around, rotation of crops and more thorough work will pay them better. A regular and good rotation of crops is a great help about keeping weeds down. Spring wheat grown year after year has overrun part of the Northwest with weeds.

Health Hints.—Do not Overwork.—Mrs. J. Y. Heartzler, Allensville, Pa., in a very kind letter, asks a number of questions. I now have more than 100 questions on hand to discuss in these columns. As fast as possible I will try to get around to those of the most general importance. Mrs. H. says she has been trying to live up to the teachings of these hints and already has been greatly benefited. One question, which has also been asked by others, is, "Should a person stop working when tired?" One can hardly answer this with a simple "yes" or "no." It is good for us to use muscles and brain to a reasonable extent and get fairly tired. Use is the law of life; using up muscular or brain tissue and building more. Just how tired it may be wise for one to get depends on circumstances, such as individuality, age, etc. If one gets real tired by night, but next morning feels fresh and rested and like going to work again, it is probable that he or she did not overwork the day before. If, on the contrary, one fails to sleep well, and feels used up the next morning, not fully up to par, work was carried too far the day before, probably. When one becomes tired it is nature's warning, her call for rest. Sometimes it is hard to heed it, but sooner or later we will pay the penalty if we work on our nerve, as we sometimes say, too much; that is, if we force ourselves to keep going when work has become a burden; if we keep on to the point of utter exhaustion. Working under these conditions is no less than slow suicide. We often hear the remark that work never hurt anyone, but it is not correct. Health is undermined by overwork. There are times in the lives of most everyone when there seems no other way to do. But it is unwise, and we will only accomplish less in the long run and injure our health. This is one of the hardest lessons the writer has to learn. He likes to accomplish something, to make things go now as he could when younger. The other day he had a cement floor to lay in the furnace room recently built in the cellar. The coal was ordered and might come any day and help could not be obtained just then, but that floor must go in so as to be drying. So he and his wife went at it and mixed the mortar and began laying the floor. For a time he enjoyed it; then he got tired, soon seriously exhausted, carrying the heavy materials and mixing them, but that floor had to be laid as far as the coal would come, and it was done. The next thing was to lose three days entirely while recovering from the overdoing, and the coal hasn't come yet. I have determined time and again not to go beyond my strength, but it is a hard matter to live up to sometimes. Yes. Mrs. Heartzler, stop when you get tired almost to the point of exhaustion and rest a little. Lie down a short time, if you can. One can soon learn how far he can safely go in the matter of work. It is more a question of doing as well as he knows.

It may interest some to hear what Dr. Dewey, who has been making no little stir in the world lately, says about how we get strength. Most people would say that strength came from the food eaten. Dr. Dewey says the power to labor during the day comes from the sleep at night and from rest; that one cannot get lost strength back by going to the dining room, but rather to the bed room; that our sole need of food is to maintain the weight of the body and not to give strength. Some of the greatest authorities in this country and abroad, even with six to ten letters after their names, agree with this view of the matter. MacFadden, the New York athlete, editor of Physical Culture, was able to lift a heavier weight after seven days of fasting than he had ever raised before, although, of course, he fell away in weight of body. I could give you numerous experiments along this line that seem to go to prove that Dr. Dewey is right. Digestion is a tax on strength, that we know. Having no food to digest, one's strength is increased temporarily. This is not wholly a practical way of getting more strength, in the long run, but it seems to back up Dr. Dewey's teachings. I am not ready to fully agree with him, but still there is no question but what a person whose muscles have been tired out by work accumulates strength again partly at least, by resting and sleeping. To those who never know what it is to get tired this is of no particular value. But thousands of men and women do get tired out, almost to exhaustion, sometimes quite. They should stop and sit down, or lie down, and rest a little and get some more strength before going on with their work. A nap after dinner will be found of great help to such friends. It will enable them to accomplish more in a year and will improve their health. I know people who invariably follow this practice and they tell me they surely get more out of life by so doing. When we sit down the hard work of the heart is lessened. When we lie down it has still less to do, so we have a chance to accumulate strength. When you stop to rest relax your muscles entirely, if you can. Throw aside all cares, if it be only for a few minutes. Be sure you get sleep enough. And then be careful to not overeat, as digestion is surely a tax on your strength. All the food you eat in excess of your actual needs is diminishing your vitality and your strength for work. Yes, you may actually find yourself having more strength on less food and holding your own in weight.

T. B. Terry.

* * *

The Cow Pea, for the Farm, the Orchard and the Garden.

[A lecture delivered before the N. C. Farmers' Convention at N. C. College of Agriculture, July 21, 1903, by Prof. W. F. Massey.]

(Concluded from Aug. 29th.)

The chief points to consider in the curing of cow pea hay are to get rid of the surplus sap as rapidly as possible, with as little exposure to the sun as possible. One of the most efficient helps in this is the tedder. Start the tedder soon after the mowing machine, and toss the hay up so as to wilt the vines rapidly, and if the weather is hot, the vines mown before noon can be raked into windrows the same afternoon. Open these and turn them the next morning, and that afternoon put the hay into high shocks. Turn these the next morning, and if not ready that afternoon to go into the house, shock the hay up again. Never let it heat in the shocks, for if it does, the leaves will come off. As soon as a bunch can be taken in the hands and given a hard twist and no sap can be noted running from the twist, the hay is ready to go in. Put it in the barn if there is room for it, and then let it strictly alone, for it will heat somewhat, and if you try to cool it off by stirring it you will let in the germs of mould and it will get mouldy. Let it alone, and if put in in the proper condition, it will cure bright and sweet, and make the finest of hay. At an Institute we held in Lincolnton last year, a gentleman brought in a sample of beautifully cured pea vine hay with the leaves on it still green in color, though he said it was three years old. He said that after wilting in the field he simply packed it in rail pens and put a straw stack over it to shed the rain. This can easily be done by those who have not barn room enough. But if the farmer once gets to growing an abundance of forage, and feeding cattle, it will not be long before he will need, and will be able to have, an abundance of barn room. The limits assigned to these papers will not allow me to enter into detail in regard to the use of peas in special crop rotations. Any farmer who studies the subject can easily contrive a rotation of crops suited to his particular needs, and the Experiment Station is always ready to advise farmers who correspond with us in regard to particular conditions. But a few words in regard to the use the pea may be to the farmer in saving him the cost of his fertilizers. Our farmers are too much in the habit of buying commercial fertilizers by the brand rather than by their composition, and many buy annually material they need not buy if they farmed right. When a farmer once gets to farming his crops in rotation and uses the cow pea where it should be used, I am certain that for the ordinary crops, with the exception, perhaps, of tobacco and truck, he never need buy an ounce of nitrogen in any form. This is especially true of the cotton farmer who exchanges his cotton seed for meal and hulls, and used these judiciously in combination with good forage in moderate amount for the compounding of rations for his cattle. Eventually, I believe that the man who farms right with peas will find that he needs to buy nothing in the way of fertilizers but acid phosphate, if he is on red clay soil, and acid phosphate and potash if on gray or sandy soil, and that the only place where he will need these is on the peas, the crop that feeds the soil while furnishing food for stock. Feed the pea liberally with these mineral elements of plant food, and the pea will do the rest.

Years ago I had, in Virginia, a large field, about half of which was in peas, the remainder being in grass. Wishing to graze the grass, I concluded to run a temporary rail fence between this and the peas. It was a steep hill field, and to run the fence on the best location I was obliged to turn a few acres of the peas into the pasture when the peas were about half grown. When the cows went into the field they seemed to scent the peas, and went for them at once, never touching the grass until they had eaten down the peas. After a while they were moved to another pasture for a while and the peas started up again. Again they were eaten down, and the same process was repeated the third time before the peas finally gave up. The effect of the peas on the milk pails was very marked, and I realized the great value that the pea has as a summer pasture for milk. If devoted to pasture, the pasturing should begin before any pods are formed, as the seed-making weakens the plants and they will not sprout as readily again. Care must also be used in turning the cattle on them, for if turned in when hungry, and when the dew is on the peas there will be danger of bloating. But when well fed elsewhere, and the peas dry, there will be no serious danger from this. In the cow pea the Southern farmer has the greatest of legume forage crops and the best one to supply protein to balance the great carbonaceous forage crop, the Indian corn. He has in the pea a plant that helps the soil that grows it directly while furnishing food for cattle from whose droppings the improvement can be carried further, while he is making money from the cattle. He has one of the best of all pasture crops that will flourish when grass is dry and parched in summer. In short, he has a crop which, properly used, will bring fertility to his acres, decrease the cost of producing his staple crop, and will make farming a business of profit and not a hap-hazard affair that needs the constant borrowing of money to keep it afloat, for the only way to put money in the farmer's pocket is to put fertility into his soil. There is a notion among certain classes of farmers that for their particular crop the cow pea is a detriment. This is the notion among some tobacco growers and also among the peanut growers to a large extent, and the notion stands in the way of prosperity to both. The idea has arisen, I am sure, from not making direct experiments but taking the general notion as true, or in making experiments jumping to conclusions not warranted by the facts. I have experimented to some extent in tobacco, and do not believe that the idea is correct that peas and clover will injure tobacco. In one section of Virginia, where a very high priced dark wrapper is grown, the farmers depend on clover entirely for tobacco, and use no fertilizer at all. One of these farmers wrote me asking my advice. He said that on their tobacco land they followed a rotation of tobacco, wheat and clover, and turned all the clover under in the winter for the tobacco crop. He wanted to know if it would not be better to save the clover hay and use some fertilizer on his tobacco. I asked him what his crop amounted to. He said that he averaged $145 per acre for his tobacco, and made 28 bushels of wheat, on an average, after tobacco. I told him to let well enough alone, of course, just as I once told a man in Marlboro, S. C., who asked me what was the best kind of tobacco to plant on his land that made two bales of cotton per acre. I told him no kind whatever. In this connection I asked the opinion of Prof. Patterson, Director of the Maryland Experiment Station, and the following was his reply:

Prof. W. F. Massey, Raleigh, N. C.

Dear Sir.—I have yours of the 13th and would say that from our work here I am satisfied that the organic matter furnished by leguminous crops is not only not harmful to crops of tobacco, but on the contrary is of great benefit to the tobacco. I grew here on the Station farm eight crops of tobacco in succession on the same land, seeding the land to crimson clover immediately after removing the crop of tobacco and then plowing this crop of crimson clover under for the succeeding crop of tobacco. Under this system the yield and quality of the tobacco improved. Some years ago when at one of the Farmers' meetings in Southern Maryland I advised them to use either or both crimson clover and cow peas as a means of improving the land for growing the tobacco and getting organic matter into their soils. I found a great many farmers very much averse to such a practice, many of them saying that it would ruin the quality of tobacco, and even up to this time I find a great many who hold to this notion. Most of them have never made a trial of the matter, and if they have it has not been performed under proper conditions. Nevertheless, I am glad to be able to report that many of the most progressive and best tobacco farmers in Southern Maryland have adopted both cow peas and crimson clover as a preparatory crop for tobacco and they have now been doing this for some five to eight years and report splendid success. The man who has the reputation of sending the best tobacco grown in Maryland to market, and who also procures the best yield per acre, stated in an address which he made before the Farmers' Institutes in Calvert and Prince George counties this past season that he has adopted the growing of either crimson clover or cow peas as a preparatory crop for his tobacco, allowing the same to mature and die down on the land before plowing the same in. There is plenty of evidence which can be procured from experiments and practical farmers that shows that the use of leguminous crops is in the line of the very best practice, and, in fact, at present this question should no longer be in the experimental stage and cannot be questioned; but is exactly in line of the very best practice of today.

Yours very truly,

H. J. PATTERSON, *Director.*

With the peanut growers I doubt the expediency of planting peanuts directly after peas. But they still will be valuable to the peanut grower if the peas are saved for hay and fed to cattle, and the stubble is devoted to winter oats, also for feed. He will thus get organic matter in his soil on which lime will have a marked effect in the increased production of the peanut. In fact, if I found that in the growing of any crop for sale I could not at the same time farm for the improvement of my land, I would abandon that crop for something that would let me farm right. But I do not believe that the best farming and soil improvement is detrimental to the production of the best crops of anything grown.

I want to add a few words in regard to the use of the pea to the orchardist and the trucker. Young orchards, especially of peaches, need to be well cultivated during the early part of the season. When the growth of the season is complete we then should put the peas in to furnish a soil cover and a renovating crop to be plowed under the following spring. When the peas are dropping their leaves, crimson clover seed can be sown among them, and the whole plowed under in the cool weather of spring, much to the benefit of the trees.

Our truckers very commonly prepare the land after their early crops of snap beans and other things and let the crab grass grow for hay. If instead of crab grass alone they sowed peas on the land, the mixture that would grow of crab grass and peas would make a far better grade of hay, and the grass that will grow rankly on the rich truck soils will be a great aid in the curing of the hay, and instead of a crop that will merely rob the soil they will have one that leaves it in a better condition for the fall truck planting. The pea is of as much value to the market gardener, and even more than to the general farmer, for the trucker should feed stock, for with some of his crops the manure of animals is important, and the increase in the humus content of his soil will enable him to use fertilizers more efficiently because of the moisture retaining character of such a soil. But for the bell that will cut short these papers I would like to enlarge on this subject, and may have time yet to add something that may be asked for.

Importance of Growing Clover in the West.

H. M. STARNS.

The growing of clover is not as general here as it should be, and 3 of every 5 farmers think it cannot be grown, yet we have been successful with it for several years. And we believe that if the following suggestions are heeded, the Western farmer can succeed with clover as often as with the more common crops. Clover should follow corn, or some cultivated crop, as the soil is then more likely to be free from weed and grass seeds. Here, foxtail and crab grass are arch enemies of young clover, especially in a wet season. We plow the land in the late winter or early spring, 7 or 8 inches deep, if the subsoil will permit. This early plowing gives the frost a chance at the soil and also gives time for it to become settled. As soon as the danger of frost is past—about April 10th with us—we prepare the land for the seed. Harrowing 5 or 6 times with a smoothing harrow puts our soil in good condition. At once we sow a peck of seed per acre, using a Cahoon seeder, and follow with a harrow with teeth adjusted to cut about one inch deep. This covers the seed nicely and leaves the ground practically level. The sure plan is to sow alone. If clover succeeds with another crop it does so in spite of the crop, not because of it. The only failures we ever made were in seeding with flax. One time we were too early and the frost got both clover and flax just as the seed sprouted. Again we got a nice stand of the flax, but dry weather and the hot sun at the removal of the "nurse crop" were more than the tender plants could endure. Since then we have seeded alone, and, with the exception of about one acre, which we let the crab grass smother out, have always secured a good stand. Sow alone until you have grown a crop or two, then you can try sowing with other crops. We grow the medium red clover. At least that is the kind of seed we ordered, and it is like the red clover of our Eastern friends, except the first crop produces a considerable amount of seed. I am of the opinion that this difference exists in this variety when grown East and West. The second crop has much more seed in proportion to the amount of hay, but one bushel per acre is sometimes obtained from the first crop. Alfalfa is grown here, but is more difficult to grow under the varying conditions than is the red clover.

For hay, pasturage for hogs and to benefit the land are the purposes for which we grow clover. Farmers do not practice a rotation of crops yet, and, as a rule, it is the field that is beginning to fail that is seeded to clover. Not much of our land is too poor for clover, but much of it does lack the humus that is favorable to a good stand and early growth. Strawy barnyard manure, scattered thinly after plowing and before harrowing for the preparation of the seed, is an aid in such a case, as it would be on poor land, if the manure can be obtained. Among the causes of failure I would name three. First, scant seeding. Second, sowing at the wrong time. Third, lack of subsequent care. Many get a fair stand, but leave it to fight its own battles with weeds and grass instead of clipping one or more times as is necessary. In the case of the grasses spoken of above, frequent mowing is all that will save the clover. Leave clippings evenly distributed for a mulch. The first crop is cut for hay as soon after blossoming as the weather permits. We cut about June 1st. In fair weather cut as soon as the dew is off. It is raked and put in small cocks the next afternoon. If fair weather continued it may be left in the field 2 or 3 days, hauling in after the dew is gone, and packing it tightly in the mow. It should not be disturbed while heating. The second crop we stack outside and cover with straw or marsh grass. In the absence of a clover huller we thresh with the ordinary thresher, putting in the corrugated concave teeth. We cannot get all the seed, as is shown by the fact that the 60 acres of prairie pasture in which my stock graze has clover on almost every square rod, the seed having been scattered by them from the haulm ricks. All of my stock like clover in any stage of its growth. The hay can be fed to milch cows and young growing stock to an advantage. And don't forget the pigs and poultry; they like it, too. Work horses fed with clover hay do not require much grain. The only trouble in feeding the hay is that the supply is usually inadequate to the demand. In conclusion, I would urge the P. F. readers of the West, if they have never grown clover, to begin in a small way the coming spring. A bushel of seed will cost you about $4.50, and will sow four acres. From this outlay you can, in two years, be producing your own seed with some to spare. Clover is indispensable to economical hog raising. It enables one to grow more and better hogs with the same amount of grain. We are told that there is sufficient fertility in our soils to grow 200 average crops. Yet after 25 or 30 have been removed we notice that some of the food elements are failing—that we are drawing too heavily on our "reserve fund." And since this fund consists chiefly of the three elements of plant food of which nitrogen is the dearest, it is a part of wisdom, and duty to posterity, to grow a crop that will augment this most costly element instead of diminishing it by continuing the present practice.

Wilson Co., Kan.

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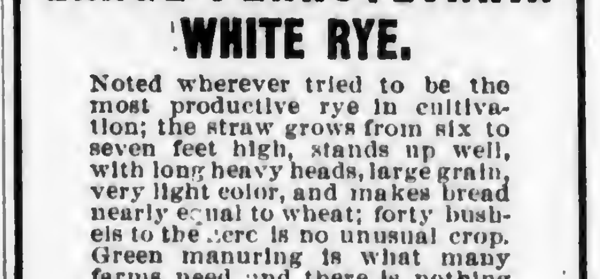
Noted wherever tried to be the most productive rye in cultivation; the straw grows from six to seven feet high, stands up well, with long heavy heads, large grain, very light color, and makes bread nearly equal to wheat; forty bushels to the acre is no unusual crop. Green manuring is what many farms need, and there is nothing better for this purpose than rye. Large packet, 10 cents; lb., 25 cts.; 3 lbs., 50 cts., by mail, postpaid. By express or freight, peck, 40 cts.; bushel, $1.25; 10 bushels, $12.00.
Remit by P. O. or Express Money Order or by registered letter and address,
WM. HENRY MAULE, Philadelphia.

Difficult Digestion
That is dyspepsia.
It makes life miserable.
Its sufferers eat not because they *want to*, —but simply because they *must.*
They know they are irritable and fretful; but they cannot be otherwise.
They complain of a bad taste in the mouth, a tenderness at the pit of the stomach, an uneasy feeling of puffy fulness, headache, heartburn and what not.
The effectual remedy, proved by permanent cures of thousands of severe cases, is
Hood's Sarsaparilla
HOOD'S PILLS are the best cathartic.



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We want active, energetic agents in every part of the country, and to the first man writing us from each county we will make a special proposition. The attachment sells itself wherever shown. Thousands in use. *Write for catalog and prices.*
WONDER PLOW COMPANY, 203 FACTORY STREET, ST. CLAIR, MICHIGAN.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Cement Floors. — J. D. Myrick, Dovedale, Ga.—"I want to put cement floors in my cow stalls, and wish to know if it is necessary to dig out and fill with broken rock. Will it answer to put the cement an inch or two thick on hard red clay? What is the correct height for wagon wheels? I have a low one which seems to pull harder than a high wheel with a much narrower tire on wet roads." Cement floors in box stalls where there is going to be plenty of bedding and the manure allowed to accumulate in the stall and kept tramped are all right. Cement floors for cattle to stand on in ordinary stalls are, in our opinion, all wrong, unless you put slatted wooden floor for the cattle to stand on. We have found that on bare cement the cows will slip and fall badly in going in and out, and where bedding is scarce and the cows lie with udders on the cold cement there will be certain to be trouble with the udders. If you have properly constructed stalls with tight wooden platform for the cows to stand on and a broad cemented gutter behind them there will be little loss of manure if the drainage of the gutters is carried to the right point for absorption. A good cement floor necessitates a broken rock or cinder bottom, and we do not think that an inch or two of cement on clay will last very long. We have made these floors by putting down a foot of broken stone, covering this with the cement and sand dry and washing it into the rock with water so as to grout the whole mass. Then finish with a good coat of cement. But for an ordinary stall we greatly prefer a tight wooden platform with a cement gutter behind. This is the opinion of the Editor after a very considerable experience with cement floors. We would not have one except in a box stall, and then to be heavily bedded.

Weevils in Wheat.—Mrs. Thos. Newlin, Brandywine Summit, Pa. — "How shall I kill the weevils in wheat? Did not sell our wheat last year and it is alive with them." Get one pound of the liquid carbon bi-sulphide from the druggist for every 100 bushels of wheat. Put the wheat in a close bin where you can cover it and place the carbon bi-sulphide in an open earthen vessel on top of the wheat. Cover the bin up and have no animals in the building. The fumes of the chemical are heavier than air and will penetrate the mass of wheat and kill the weevils. When it has evaporated open up and air the granary. The evil-smelling stuff is not wholesome to breathe. Hence do not breathe any more of it than you can help. Keep all fire away from the building while it is being used, as the fumes are explosive.

Fertilizer Query.—C. N. Donat, Wanamakers, Pa.—"What kind of commercial fertilizer, or ingredients should it contain, for wheat, rye and grass after the potatoes are harvested? The soil is of a fine gravel, mixed with scale from the subsoil in some parts. The fertilizer I use contains: Ammonia 1 to 2 per cent.; available phosphoric acid 6 to 7 per cent.; actual potash 4 to 5 per cent. But the straw gets too brittle and breaks before it is ripe. Do you advise home mixing?" The following will make a good fertilizer for wheat: Acid phosphate, 1,400 lbs.; tankage, 500 lbs., and muriate of potash, 100 lbs., to make a ton. Use 300 to 400 lbs. per acre. You have probably been using a fertilizer too high in potash for your land. To find what is needed on your soil you should experiment with plats of different plant foods and find what you need most and what you do not need to buy, as we have advised in our book, "Crop Growing and Crop Feeding," to had of The Farmer Co. Home mixing will enable you to prepare a fertilizer suited to each crop and soil.

Ducks.—J. E. Baker, Barren Springs, Va.—"Will it pay me to drop a $60 job as a bookkeeper and buy 1,000 ducks and go to duck raising?" No; stick to the work you understand, until you save money you can afford to risk in experimental farming. It is easy to figure out profits in poultry on paper, but hard to get it until you thoroughly understand the needs of the work.

Farming in Arkansas. — L. H. Phillips, Fayetteville, Ark., writes an interesting letter in regard to the building up of a poor, run-down farm, which he now has in good shape. "I have now 10 acres in corn, part of it sown in cow peas and part in rye. Propose to cut the corn off the first of September and deeply break the land and subsoil and sow wheat to cut for hay in the spring, and then plant in corn again. Is this cropping the land too hard?" If you were sowing the wheat for a grain crop the late deep plowing would not be good practice, I am sure. You might do as you propose once with fairly good results in the crop, but if kept up we think it would do more damage than good. It would be far better to chop the corn land thoroughly with a disk or cutaway harrow, making the surface fine and keeping the trash on the top. Then seed to wheat for grain. Follow wheat with cow peas for hay and sow crimson clover on the stubble and turn this for corn the next spring. In this way you will be building up your soil rapidly and the pea hay crop will be far better than the wheat, although you can also make hay of the wheat to advantage. Plow deep after cutting the wheat, for peas, and subsoil then, but never plow for wheat late in the fall.

Rotation.—M. E. Coffman, Nokesville, Va., has a small farm of 75 acres and wishes to keep cows and pigs and ship cream to Washington and feed skimmilk to pigs. Wants to know the best rotation for his purpose. Wheat has failed but clover does well. If clover does well there is no particular reason why wheat should not thrive if you farm for wheat in connection with dairy work. Would make a three year rotation of corn on clover sod, with all the manure. Cultivate the corn level, cut and cure in shock and prepare the land with cutaway harrow and sow wheat, using a good application of plain acid phosphate. Seed to clover and run the clover one season and return to corn. With clover hay and shredded fodder and corn you can make a fairly well balanced ration. It will be still better if all the corn is cut into the silo so as to give the cows a succulent winter feed. It would also be of advantage in getting the corn all off the land so that it can be well prepared for wheat. If the land is well plowed for corn and is cultivated clean and level, it should not be replowed for wheat. Follow this rotation carefully and save the manure and apply on the clover sod for the corn and it will not be long before you will be growing good wheat crops. You are a little far North for winter oats. They will do well in mild winters like the last one, but a severe winter will hurt them badly.

Grass on Low Land.—M. Chittenden, Clevelend, Tenn. — "I have some good bottom land that overflows occasionally, which I want to seed to grass. What kinds shall I sow, how prepare land and how much seed per acre? Volunteer clover does well and also some timothy, orchard grass and red top." On land of that character we would sow 8 pounds timothy and 5 pounds of red top per acre in early fall and scatter a few pounds of clover seed in spring. The land should be well plowed at once and very thoroughly fined with cutaway harrow. Then sow the seed and run a smoothing harrow lightly over it. If quite dry, roll, but not if moist.

Killing Weeds. — M. E. Onion, Dedham, Mass.—"Is there any poison which, placed in contact with leaves, will kill the plant?" It is doubtful if anything merely placed in contact with the leaves will destroy the roots. A solution of weak crude carbolic acid applied to the roots will kill weeds. But clean farming and the use of the mower is the best way to clean lands. Put smothering crops of forage plants in place of weeds and you can clean the land more cheaply than with chemicals.

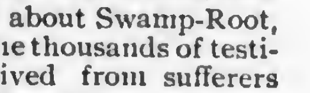
Fertilizers, etc.—P.N.Swartzentruber, Mantua, O.—"I want to sow hen manure with fertilizer attachment to wheat drill. How shall I pulverize? How much per acre? Should I mix anything with it? Would agricultural lime do to mix with the hen manure? What fertilizer is best for a run-down sandy loam? I want to build a barn; what is best time to cut timber?" We do not think you can get the hen manure fine enough to drill. Better scatter it as far as it will go broadcast. Never mix lime with any animal manure, as it will drive off ammonia. On a sandy, thin soil you will need a complete fertilizer rich in ammonia and potash. But you should experiment with your soil and find by using different forms of plant food just what is best for it. The best time to cut timber of any sort is during the winter and before the saps starts in spring.

Sundry Queries.—Subscriber, Shelby, N. C.—"1. I have a mule 10 years old. He begins to shed in spring, but takes nearly all summer to get old hair off; the skin gets lumpy and he gnaws himself raw. Is there any permanent cure? 2. I have sowed peas in my corn. Will it do to turn shallow with one horse and follow with subsoiler, then disk and drill in wheat with about 300 pounds of fertilizer? 3. I sowed oats and clover this spring; I mowed the oats; have about half a stand of clover. Can I sow more seed and harrow in this fall, or must I begin anew?" 1. The mule has a chronic eczema. Bathing with a two per cent. creolin solution may help temporarily, but I am doubtful as to any permanent cure, as it will reappear in warm weather. 2. Better cut the corn off and cut the peas and then prepare the stubble with the cutaway, going over it until well fined on the surface, and keep the trash on top. Late plowing is bad for wheat, and we would never replow for wheat after corn. 3. Get all the manure you can on the clover this winter, turn it in the spring and sow peas for a hay crop, and follow them with wheat and seed again to clover.

Grass in S. W. Mo.—J. N. Hudelson, Poplar Bluff, Mo.—I have a piece of timber land of dark loam and part whitish in color, which I want to get in grass, and a piece of cleared land of same kind which I want for a permanent pasture. Both liable to overflow. What grasses and when to sow? How would winter oats do here? What wheat would be best? Had a little patch of crimson clover last year and will sow more, and want to try alfalfa. Have lived in Colorado and agree with your Kansas man who does not like it for horses. The livery stable men West do not use it for driving horses at all." In the timber land we would use meadow fescue, orchard grass and red top, 10 pounds of each of the first two and 5 pounds of the last per acre. On the open land we would use meadow fescue, 10 pounds; poa compressa, 10 pounds, and red top, 5 pounds per acre. Sow in fall on well prepared land and on the pasture piece scatter, in spring, a few pounds of red clover. Winter oats of the Texas Red Rust Proof variety should do well with you if sown in September. The Fulcaster wheat will suit your conditions.

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

The Power of a Horse.—Notwithstanding the availability of steam, gas, gasoline, oil and other engines and water wheels, and motors and electric motors, the fact remains that over the greatest part of this country horses and other farm animals will continue to supply the greatest amount of the power required in successful farm operations. The old, so-called "down powers" were very effective in their day, and are yet considerably used in their improved form. It is undeniably a fact, however, that the acme of horse power is only attained in the modern improved tread power. Such a power not only possesses the advantage of creating more power than it is possible to secure or acquire from a horse or several horses in any other way, but has the added advantage of being inexpensive, durable, safe and convenient. Such a power as we have described is the Fearless Horse Power, which is manufactured by the Harder Manufacturing Co., of Cobleskill, N. Y. This power possesses features peculiarly its own, as, for instance, the equalizing feature of the links and the clutch arms. The effect is to cause the whole machine to work more equably and smoothly; the friction is reduced to the minimum and there is, in consequence, less waste of power than is common with machines of this class. The Harder people publish a very excellent catalogue fully illustrating and describing them. They will take pleasure in mailing this catalogue free to all of our readers who will request it and who will mention the P. F. in writing.



Women as Well as Men Are Made Miserable by Kidney and Bladder Trouble.
Kidney trouble preys upon the mind, discourages and lessens ambition; beauty, vigor and cheerfulness soon disappear when the kidneys are out of order or diseased.
Kidney trouble has become so prevalent that it is not uncommon for a child to be born afflicted with weak kidneys. If the child urinates too often, if the urine scalds the flesh, or if, when the child reaches an age when it should be able to control the passage, it is yet afflicted with bed-wetting, depend upon it, the cause of the difficulty is kidney trouble, and the first step should be towards the treatment of these important organs. This unpleasant trouble is due to a diseased condition of the kidneys and bladder and not to a habit as most people suppose.
Women as well as men are made miserable with kidney and bladder trouble, and both need the same great remedy. The mild and the immediate effect of Swamp-Root is soon realized. It is sold by druggists, in fifty-cent and one-dollar size bottles. You may have a sample bottle by mail free, also a pamphlet telling all about Swamp-Root, including many of the thousands of testimonial letters received from sufferers cured. In writing Dr. Kilmer & Co., Binghamton, N. Y., be sure and mention this paper. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.
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Live Stock and Dairy.

☞ If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Feeding Silage to Beef Cattle.—Part II

PROF. A. M. SOULE.

Groups 13 and 14 were given clover hay to see what effect a small amount of dry roughness added to the daily ration would have on the gain. They consumed some 7,000 pounds less silage, though about the same amount of meal as groups 11 and 12, and from the results obtained there was little gain from feeding from 5 to 8 pounds of clover hay per day. The results obtained from feeding silage, cotton seed meal and corn and cob meal are certainly very gratifying and show that cattle of fair quality will make very satisfactory gains on this ration or on one of straight cottonseed meal and silage. These 16 head of cattle averaged 2.23 pounds of gain per head per day, while the bunch made 5,347 pounds in 150 days, a very satisfactory showing for cattle fed under favorable conditions even in the corn belt.

SUMMARY OF GAINS.
Feeding Experiments, 1903.
Silage and Moderate Meal Ration

Group	Gain per head per day for 60 days	Gain per head per day for 120 days	Gain per head per day for 150 days	Gain per head for 150 days
11	2.4	2.3	2.40	360.5
12	2.3	2.1	2.15	321.7
13	1.9	2.1	2.18	326.2
14	2.2	2.2	2.19	328.2
Average	2.2	2.17	2.23	334.15
Cheap Roughness and Light Meal Ration.				
15	1.4	1.4	1.48	221.7
16	.9	.8	.97	145.5
17	1.3	1.2	1.15	173.0
18	.9	1.0	1.04	156.0
Average	1.1	1.1	1.16	174.05

The stocker cattle to be finished on grass never received more than 4 pounds of meal per head per day, consisting of 2 parts of cottonseed meal and 1 part of corn and cob meal. Group 15 received silage, and by the way, all groups received this much berated crop, and it must be said that it was of the most excellent quality. They gained 1.48 pounds per head per day, or 887 pounds for the period. Group 16, fed corn stover, gained .97 pound per head per day, or 582 pounds for the period. Group 17, fed sorghum fodder showing well ripened heads out gained 1.15 pounds per head per day, or 692 pounds for the period. Group 18, fed Kaffir corn, gained 1.04 pounds per day, or 624 pounds for the period. Here again sorghum silage is seen to be in the lead, closely followed by sorghum fodder. This would indicate that farmers who have no silo can well afford to have an abundance of sorghum fodder for the winter feeding of stocker cattle, and it would be interesting to know what results would be obtained if this is fed with a heavy meal ration. It will be observed that the stocker cattle made only about half as much gain per head per day as the cattle fed a heavier meal ration. While it was originally intended to sell the first 16 head of cattle for beef, they were bought by gentlemen from Virginia to be put on blue grass, and it will be interesting to know how cattle fed on a heavy grain and succulent ration will do when put on grass. It is expected these results will be obtained next fall. It will also be instructive to learn whether the stock cattle which were fed for much less than the others owing to the lightness of the meal ration will make enough larger gains on the grass to justify the smaller gain made by these cattle through the winter period. This result will also be known next fall. A very surprising fact connected with this experiment is shown in the small consumption of concentrates and roughness by the different groups:

Group	Food consumed per pound of gain Concentrates lbs.	Roughness lbs.
11	3.6	16.2
12	3.9	18.1
13	4.0	16.1
14	3.7	15.7
15	2.3	25.8
16	3.6	16.0
17	3.0	18.7
18	3.3	20.0

It is truly surprising that the consumption of concentrates for a pound of gain should have been so low, averaging only about 3.8 pounds with the first 16 head, while the average consumption of roughness in the form of silage was only about 16.5 pounds. With the latter 16 head the consumption of concentrates was least where the silage was fed, being 2.3 pounds, and highest with the corn stover, 3.6 pounds. Notice that when a small amount of grain was fed considerably more silage was consumed per head per day, and, in fact, where a light meal ration was fed all the groups consumed more roughness.

The buying price of the first 16 head of cattle was 3½ cents per pound and the selling price 5 cents, so that the profit on the four groups, so far as the Station is concerned, was as follows: Group 11, $47.46; group 12, $28.65; group 13, $32.40; group 14, $23.37. As the 16 head of stocker cattle have not been sold it is impossible to say what profits may be made from them, but the foregoing indicates clearly the value of a ration of silage, cottonseed meal and corn and cob meal for the winter feeding of beef cattle, and also that a fair profit can be made from the business at the prices indicated. Many persons will be interested to know that the gain made by group 11 came within $1.89 of paying for the cost of the food; with group 12 it came within $21.18; with group 13, $18.60; and with group 14, $37.63. Finally, the acreage required to feed four steers for 150 days with the average yield obtained on the University farm was as follows:

Group	No. animals	Roughage	Yield per acre—tons	Amt. required to feed 4 steers 150 days—tons	Acreage required to feed 4 steers 150 days
15	4	Silage	19.75	11.4	0.58
16	4	Stover	2.6	5.2	2.0
17	4	Sorghum fodder	7.1	6.6	0.93
18	4	Kaffir corn	2.5	6.2	2.5

Notice that it only required the food on .58 of an acre in the form of silage to feed four beef cattle for 150 days, while it required the stover from 2 acres, the sorghum fodder from .93 of an acre, and the Kaffir corn from 2.5 acres. The silage referred to was made from a mixture of corn, sorghum and cow peas, mixed in the ratio of 64.8 per cent. corn, 29.2 per cent. sorghum and 6 per cent. cow peas. These results should certainly encourage the Southern farmer to winter feed more cattle, as they show beyond reasonable doubt that a pound of gain can be made by the use of silage for a remarkably small consumption of concentrates and that large gains per head per day can be made as well. In fact, the consumption of concentrates required for a pound of gain is smaller than that usually reported in sections of the country where the winter feeding of beef cattle is the leading industry. The pounds of gain made per day by the cattle on a moderate ration are also as large as those usually obtained, a result which should prove very gratifying to the farmers of the Middle South who have so long neglected this very important industry because of misconception of its possibilities. These investigations have been planned and carried out jointly by Prof. J. R. Fain, Assistant Agriculturist of the Tennessee Station, and the writer, and to the former's faithful service the excellent results obtained are largely due. The publication of this brief summary has been prompted by the great interest which seems to be manifested in the value of silage for beef production at the present time, and also by the fact that it has not been deemed advisable to publish the results in bulletin form for at least three years when the experiment will be complete. The publication is delayed for two reasons: First, in order that sufficient data may accumulate to make our conclusions reliable, and because of insufficient funds for the work, a condition prevailing at too many Stations, and one which the investigator naturally feels should be remedied and which the writer is glad to say is being remedied through the assistance of the agricultural press of the country.

Tennessee Experiment Station.

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A Valuable Token of Esteem from a Son to Father and Mother and a Display of Good Judgement.

Our friend, J. M. Betts, of Broken Bow, Neb., sends us the following :—

"Our esteemed citizen, Frank Norton, and his wife are the recipients of a very fine present from their son, Frank Lee Norton, of Racine, Wis., who is manager of the J. I. CASE THRESHING MACHINE COMPANY. The father and mother being extensive farmers and have many milch cows, wrote their son that 'as all the neighbors were getting cream separators, they thought that they, to be in line with them, should purchase one.' The son, on receipt of the letter, immediately purchased a DE LAVAL SEPARATOR and shipped it to them, writing to them as follows : 'My Dear Father and Mother : I have examined the different makes of cream separators and send you the one that I consider the very best; it costs a little more than some others, but the difference in price is more than made up in quality.'"

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Stock Queries.

Cow Query.—What do you think of a cow that is almost ready to calve and yet hardly shows any signs whatever in girth circumference that she is with calf. The only signs she shows is enlargement of genital organ and gives no milk? Would you buy such a cow for a good milker? Does a large bellied cow invariably give more milk than one with a small belly like the one above described. My neighbors have such a cow to sell and I have not enough experience in such matters to know what such a condition indicates. JOHN M. KUTZ.
Fritztown, Pa.

(Reply by Prof. A. M. Soule.)

The question asked by our correspondent is a very difficult one to answer, because there is such a wide individuality in cows. As a rule, the writer would select a cow with a well developed abdomen and udder for milk production in preference to one in which these characteristics were lacking. A dairy cow requires a large pouch in order to consume and reduce to a concentrated form large supplies of cheap roughness. Young heifers with first calf often do not show a very large abdomen and the udder does not often contain very much milk before calving, but in two or three years if good milkers, they generally develop a very large abdomen, and as the common saying is, "let down in the flank," and more milk gathers in the udder before calving, so much, in fact, that many calves are lost from milk fever because the udder is not stripped out for a few days before parturition. On the other hand, a very large bellied cow is not invariably a good milker, but the chances are more in her favor, and for this reason, unless the ancestry of the heifer is known and she is from stock that have a good record for milk production, it would be better to buy a cow whose ancestry is known and whose general conformation is more in accord with that shown by the best milkers.

Sharples Tubular Separators differ widely from the complicated "bucket bowl" types. Its bowl has no complications; all others have. It has a waist high milk vat; all others are head high. It has bottom feed, simple, accessible gearing, stands on its own bottom. No other does. Skims clean, turns easy. Ask any user. Free Catalogue No. 128
P. M. Sharples, West Chester, Pa.
The Sharples Co., Chicago, Ills.

TRY AN AMERICAN CREAM SEPARATOR. It costs you nothing to try it. Catalogue free for the asking. AMERICAN SEPARATOR COMPANY, Box 1050 Bainbridge, N. Y.

Kendall's Spavin Cure the old reliable remedy for all kinds of lameness. Ask your druggist "A Treatise on the Horse" the book free, or address Dr. B. J. Kendall Co., Enosburg Falls, Vt.

ARMOUR'S BLOOD MEAL. The Potent food for work horses, cows, calves and poultry. Booklet free. The Armour Fertilizer Works, Chicago, Ill.

CREAM SEPARATORS that do thorough work. Trial FREE. NATIONAL DAIRY MACHINE CO., Newark, N. J.

A dollar in time saves nine, when you ward off Contagious Abortion by using the standard remedy CHLORO-NAPTHOLEUM DIP.. The surest germicide known. Kills all germs, mange, itch, ticks, scabs, lice, on all live stock—keeps off Flies—invigorates the stock. Sure preventive of hog cholera. 1 gal., $1.50; 5 gals., $6.75; 10 gals., $12.50; freight paid. The West Disinfecting Co., Inc., 15 E. 59th St., New York. Booklet free.

"Just as good!" "Just as good!" Did you say? "Just as good as Veterinary Pixine!!" The dealer who tells you this is mistaken. He does not know.

FACTS AND TESTS PROVE IT!

Emery, Ky., April 9, 1903.
I feel it my duty to tell what Veterinary Pixine did for a horse of mine. He was cut with a knife between the forelegs, 3 inches deep and 2 inches long, which every minute would gap open. I used several different kinds of remedy without success, even to having some stitches taken. Nothing did any good and it kept swelling and became feverish. I almost gave up hopes of getting him well. In the column of the Ohio Farmer I observed your adv. and, as it was the last chance, I purchased a box at the druggists and used it as directed and before the box was used up the cut was entirely well. I intend to keep a supply on hand for emergency cases if it costs a dollar a box. Please accept my thanks for the good I have received from its use and if you choose you can use my name and testimony.
W. S. Campbell,
Emery, Ky.

This penetrating, stimulating, soothing, absorbing, antiseptic, healing ointment heals from beneath the surface by disinfecting the parts, subduing inflammation and stimulating healthy granulations, not by drying and scabbing, and stimulates growth of hair, natural color.
Makes quick, clean and healthy cure; heals stinging, burning, chronic saddle and collar gall, hopple chafes, abscesses, inflammatory sores and all skin disease. It penetrates, stimulates, soothes and heals while the horse works. Money refunded if it fails.
Price, 2-oz. box, 25 cents; 8-oz. box, 50 cents; 5-lb. package, $4.00.
At all druggists and dealers or sent prepaid.
Troy Chemical Co., Troy, N. Y.
Also manufacturers of "Save-the-Horse" Spavin Cure, $5.00 a bottle, with written guarantee.

Caring for Horses. — Harvey Foreman, Carson, Ore. "I see now and then an article on the care of horses. I have four head of horses that I raised myself; they are 10, 12, 14 and 15 years old; never were poor, not even thin in their lives. I work them nearly every day in the year. I feed them timothy hay with about one-fifth clover. I have not fed them a ton of grain in 15 years. There are more poor horses made by not being watered at the proper time than by want of sufficient feed. If a horse is thirsty he won't eat half that he would if he had water. I water my horses the first thing in the morning before being fed; then offer them water before going to work and then any time during the day that I have the opportunity, if I think they need it.' If I work my horses hard all day I take them to water trough before going to bed, and they always drink heartily. Nine men out of ten feed their horses plenty, but not more than one-half of them give their horses enough water.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Sore Shoulder.—Can you tell me what to do for my mule? She got a sore breast in the spring from working in the spring harrow. I then bought her a new collar, which fits her exactly, but it does not heal. I wash it and grease it with urine and air-slacked lime. CHESTER GROSS.
Manchester, Pa.

If there is a large tumor with a sore in centre it should be cut out. If there is no such enlargement then it will doubtless heal if you will cleanse part thoroughly and apply two or three times daily an ointment composed of one drachm of iodoform and two drachms of tanic acid in an ounce of lard. If there is a small enlargement and sore in centre it may heal if you will wet it three times daily with a solution of two ounces of tincture of iodine in six ounces of fluid extract of witch hazel. Care should be taken to have the collar fit as well as posible and to keep it clean and dry. The mixture you have been using is entirely unsuited for applications to a sore or wound.

Reduced Milk Flow.—I have a young Jersey cow, fresh the first of May, that has fallen off more than one-half in the quantity of milk, although she is on good pasture with plenty of pure spring water and seems perfectly healthy. Gave four and a half gallons per day until July, when she was milked by a new hand for two or three days, who milked only one teat at a time, with the result that she began holding up her milk, which she has continued to do ever since, and which I believe is the cause of the falling off in the quantity. Please advise me what to do. I milk her myself, and as she is a great pet and easily milked we wish to keep her for our own use. I thought she would be all right when I began milking her again but she seems lazy and stupid, though eating well and in good condition as regards flesh. MRS. R. M HILL.
Farmington, Pa.

Change feed of cow and supply plenty of flaxseed meal, bran and succulent food so as to encourage flow of milk. Give her a pound dose of epsom salts in two quarts of warm water and follow with two ounces of a mixture of equal parts powdered fennel seed and anniseed twice daily in feed. Rub udder well with alcohol or brandy once daily. It may be that she will come back to her normal milking again if the udder has not become affected with garget.

Sick Sow.—I have a sow that has lost her appetite. She has nine pigs about seven weeks old. She has not eaten well for over a month, and has been growing steadily worse. She does not seem to suffer pain. She is very poor now and does not give any milk for the pigs. Can I do anything for her?
Plainfield, Ind. R. S. ASHTON.

Wean the pigs at once. They may have so debilitated the sow by suckling that she has become sick as described. Let her have free range on good green food and also offer her anything that will tempt her appetite. Two or three times daily give her fluid extract of gentian root in a little water. Increase the dose of nux gradually, but stop for a time should muscles commence to twitch involuntarily.

Cough.—I bought a horse in March, and he has had a cough ever since. I have fed him powder that I got from a good veterinary surgeon. He eats pretty good when he has nothing to do; as soon as he works he won't eat much. The beat seems to be very hard on him. EZRA B. ZOOK.
New Holland, Pa.

As horse coughs and blows hard he is doubtless afflicted with heaves. Have teeth put in order; wet all food; give drinking water before feeding; give half an ounce of Fowler's solution of arsenic three times daily after giving it twice daily for a week. When better gradually stop giving the arsenic. If cough continues to trouble add an ounce dose of glyco-heroin three times daily. See that he does not eat dusty hay and that barn is kept clean and well ventilated.

Garget.—I have a 2-year-old heifer that came in June 1st. Her milk was bloody in one quarter from the first. Gave her scoke root and saltpetre and she seemed to be all right for a few days. Now another quarter is affected. She is better at times; likely to be worse at night than in morning. On beginning to milk get clotted blood, then apparently good milk, then very red. Have milked something that looked like flesh a very few times. Both quarters affected were in front. Does this affect the rest of the udder? Can I feed the milk to pigs without hurting them? Had I better keep the heifer for another season if she comes all right?
Silo, O. S. A. PLUM.

Blood in the milk in the case of fresh heifers is usually due to the rupture of a small blood vessel in udder, and in such cases all food tending to produce a large flow of milk should be discontinued for a time until the rupture heals. Give her a pound dose of epsom salts in two quarts of warm water and follow with an ounce of hyposulphite of soda three times daily in water. Foment the udder well twice daily with hot water, then rub thoroughly with a lotion composed of two ounces of fluid extract of poke root, one ounce of fluid extract of belladonna leaves and five ounces of soap liniment; shake well before using. The milk may be fed to pigs. There is a tendency for the other quarters of udder to become similarly affected, but not if you give the above treatment. Where such attacks come and go without evident cause it is well to test with tuberculin lest there be tuberculosis of the udder present. Keep her if she recovers, however.

Udder Trouble. — Six weeks ago I bought a three-quarters Jersey, said to be 7 years old and an extra good milker, giving between four and five gallons daily, being fresh two and a half months. As a matter of fact, she gives but 20 pounds daily and is dainty about her eating. Her udder does not seem to have been caked, but she has two small lumps at the base of her front teat. A veterinarian who examined it said it was a sort of rupture of the milk veins, and that all four teats are inclined to be the same way. He left medicine, but cow will not eat bran when medicine is mixed with it. Her milk when run through a separator, leaves a cream-colored, sticky slime on inside of bowl. She is on pasture and has pure creek water to drink. No attempt is made here to feed balanced ration as grain is too high, bran now selling at $28 per ton. Alfalfa hay and alfalfa and blue grass pasture are our feeds. Cows do well on these. E. E. F.
Talent, Ore.

Sudden change of food may have affected her milking qualities and the udder is apparently slightly affected with garget. Give her a pound dose of epsom salts with one ounce of ginger and a cupful of molasses in 2 quarts of warm water as one dose. Follow twice daily with two ounces of hyposulphite of soda dissolved in half pint of warm water to which add two drachms of fluid extract of gentian root and two drachms of fluid extract of poke root.

Bony Exostoses. — Will you please inform me the trouble of and remedy for my hogs? They will weigh about 200 pounds. Small knots will form on the inside of foreleg near the knee joint and they become very lame. Sometimes they cannot bear any weight at all on one leg. Sometimes, however, they have knots on both legs and only show lameness in one. A neighbor told me that the small holes on the leg at that point were stopped up and that the perspiration could not exude as nature had intended. He told me to take a cob and rub the leg thoroughly and grease, and all would be well in a day or two. But I tried this and it failed. The hogs run on clover pasture and have some corn twice a day. They are in good flesh but not fat. They fall away very badly when they get lame.
Greenfield, Tenn. T. P. PRIESTLEY.

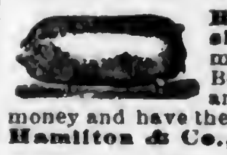
The hard knots are doubtless bony in formation similar to splints in the horse and come from either rheumatism or a strain. Almost immediate relief is obtained by blistering with a mixture of one drachm of powdered cantharides and two drachms of biniodide of mercury in an ounce of lard. Rub in a little of this ointment every day for two or three days until it blisters, then apply lard daily. At times of lameness such as you describe give internally twice a day ten grains each of iodide of potash and salol with three grains of powdered belladonna leaves in an way that seems best. Such powdered medicine may often be given conveniently in a piece of potato or apple.

Oil Cure for Cancer.
The Dr. D. M. Bye Co., of Indianapolis, Ind., report the discovery of a combination of soothing and balmy oils which readily cure all forms of cancer and tumor. They have cured many very bad cases without pain or disfigurement. Their new books with full report sent free to the afflicted. DR. D. M. BYE Co., Drawer 505, Indianapolis, Ind.

Leg and Body Wash.

Race horses often become sore and stiff from continued strain on the hard tracks. Nothing takes out this stiffness and soreness like a wash compounded of diluted Tuttle's Elixir apply to the legs and put on light bandages. Sponge the body and put on light blanket. Guaranteed to produce desired results or money back.
Readville Trotting Park, Mass., March 23, 1900.
Dr. S. A. Tuttle, V. S.
Dear Sir:—I have used your Elixir for the past ten years, in the diluted form for a leg and body wash. I consider it the best wash for keeping horses from soring up. Horses done up with this wash are much less liable to take cold than when done up with witch hazel or any other wash I ever used. J. H. NAY.
Our 100-page book, "Veterinary Experience," FREE.
Dr. S. A. TUTTLE, 28 Beverly St., Boston, Mass.
Beware of so-called Elixirs—none genuine but Tuttle's.
Avoid all blisters; they offer only temporary relief if any.

JUST OUT D. M. MAGIE CO'S Big Four Circular. Magie Poland China Swine. Established over half a century. D. M. MAGIE CO., Oxford, O.



Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

Horses and Mules at Private Sale.
Remember the mule season has opened up when everybody wants to buy young mules. I have from 200 to 400 head of horses and mules on hand at all times, consisting of fine Kentucky saddle and harness horses and good general purpose horses. Broke mules of all sizes and ages; extra good, big, two-year-old green mules; good yearling mules and mule colts from 4 to 5 months old. Come and see my stock and be convinced that I have what I say for sale at my stable at York, Pa. JOE. KINDIG, York, Pa.

COWS WILL NOT ABORT When they are fed YOUNG'S ANTI-ABORTION FOOD.
It gives to the mother cow what nature requires to sustain fœtal life; makes more and purer milk; no unhealthy offsprings; prevent abortion when it comes as an epidemic; 20th century discovery. Write for particulars. YOUNG'S FOOD CO., Media, Pa.

The Books Are Free
Spavin — Ring Bone — Knee Sprung — Fistula — Poll Evil — Lump Jaw
If you have a horse that is lamed or blemished by any kind of a growth or enlargement, that is Knee Sprung or has Fistula, Poll Evil or Sweeny, or if there is a case of Lump Jaw among your cattle, write us at once. We will send you two big booklets. One tells you just how to cure these diseases and blemishes. The other proves that you can cure them, and we guarantee you success besides. Same methods employed by over 140,000 farmers and stock owners. Write for the books and tell us what kind of a case you have to treat.
FLEMING BROS., Chemists, 225 Stock Yards, Chicago, Ill.

There's Money In the Right Kind of Hogs
Get a pair of the famous O. I. C.'s for breeders and you can raise hogs that pay.
O. I. C. HOGS
are in demand both for breeding stock and fattening for market. 30 years devoted to the perfection of this breed without the loss of a single hog through disease. We will ship a sample pair on time, giving full pedigree and allow agency to first applicant. Two O. I. C.'s weighed 2,806 lbs. Write to-day.
L. B. SILVER CO., 185 Hog Building, Cleveland, O.

ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

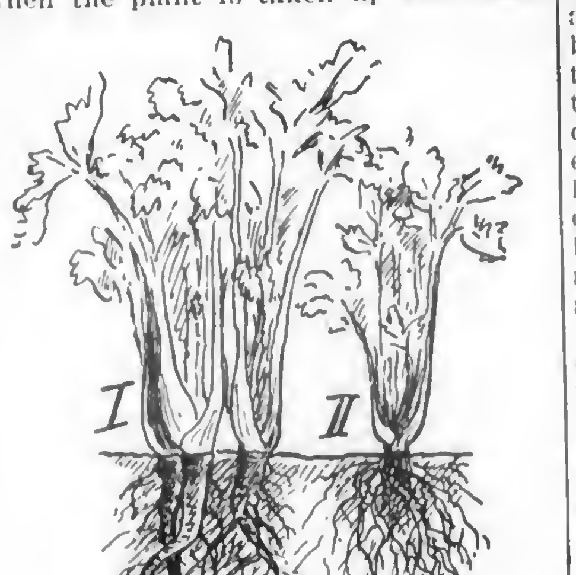
321 Vermont Farm Machine Co., Bellows Falls, Vt.

THE GARDEN.

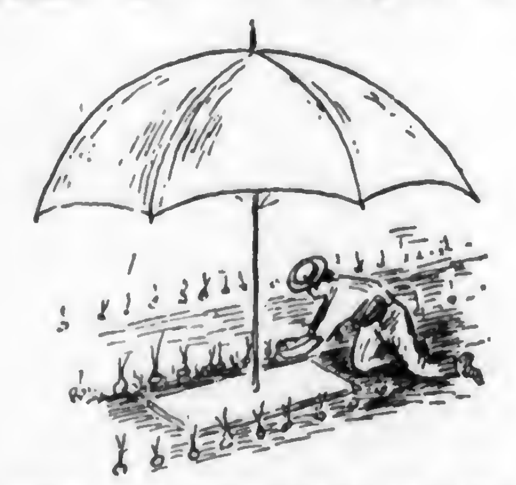
This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Celery Plants.—At I in the accompanying illustration are shown celery plants as I have grown them this year in open ground, from plants started in flats and transplanted in sections of rows (not singly) while yet quite small, i. e., hardly more than an inch high. Of course these plants stand rather thickly in the row, perhaps 25 to 40 to the foot of row. Most of these plants have the tap-root shown at I. We may talk about fibrous roots. Any healthy-growing plant develops a strong root system and plenty of fine roots. But when the plant is taken up and transplanted, the action of the little feeders will be interrupted until new hair roots are formed. In the meantime, the large tap-root, being full of sap, is better able to support the plant and carry it over the period of interrupted feeding than a plant having only the fine roots, although an abundance of them, shown at II. Fine roots, with mouths wide open for business, soon start from all along the larger roots, and even more readily from the big tap root with its store of moisture, than from the very small ones. In fact, we might follow a "stringfellow method" with vegetables, by cutting all the finer roots off the tap root, when setting the plant, and yet see new fibrous roots start promptly from the main root, and possibly more promptly than from the smaller unmutilated roots of the plant at II. The case is materially different when we grow our celery plants in flats, where they stand singly about two inches apart each way, and where they will make a root growth something like that shown at II. Here the plants may be taken up with squares of soil attached to them, so that the "fibrous" roots are not disturbed and may continue their work uninterruptedly. It is one of the best and surest ways of growing celery plants, and transplanting can be made a sure success even in a dry and hot time. But when plants have to be used that were grown cheaply, and had to be set with bare roots, I prefer those with a strong tap-root. In either case, however, a young plant is surer to grow than one that is already well advanced in age and size.



Hand Weeding in the Shade. — I might tell quite an interesting story in connection with the accompanying illustration: how our youngsters have rigged up a device enabling them to hand-weed the onion patch in the shade, even during the middle of clear days. But it would not agree with the plain truth. The truth is, that the picture was suggested by a little news item in the Rural, telling of some women who had inserted the end of the handle of a large umbrella in a heavy piece of board, and managed to protect themselves from the direct rays of the sun while weeding in the garden. The truth is that our youngsters or other helpers will not be bothered by a device of this kind, but prefer to be free, and to rush, unincumbered by any clumsy device, through the rows, pulling up or cutting out (with a weeder) the few weeds which they find in the rows of onions or other vegetables. To make hand-weeding easy, and quick work, and relieve it of every trace of tediousness, all you have to do is to have but few weeds to pull by hand, and to accomplish that, the best plan is to use the hand wheel hoe freely, always crowding one row, either at the right or left, and on the return in the same place crowding the other row. In that way the weeds can be subdued and kept in check quite easily. We leave only an inch or so of row to be weeded by hand, and if the weeds are not allowed to have their own way for weeks at a time, the weeding, whenever done, is done thoroughly so that no weed escapes at the time, hand weeding will have no terrors, and can be done very expeditiously and easily. But it should be kept up all during the season. We are doing our share of it even as late as this (August). Of course we have rows of onions, beets, radishes, turnips, etc., where the plants, started from seed in July, are yet quite small, and need close watching right along, for weeds are now starting up quickly, and growing rapidly. I do not imagine that we will have to resort to providing shade for weeding, unless we might do it for our little boys, 5 to 7 years old, who each have a little spot of garden where they grow a few short rows of onions, lettuce, celery, etc., the "garden" of each being only a yard or two square.



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Current Comments.

Watering Celery.—E. Winsten, Roseburg, Oregon.—"How often should celery be watered? We have had no rain here to speak of for two months. Have been watering about every ten days. The celery is about ten inches high and I am putting up boards. In applying water, which I do by hose, will it do harm to let the water run down between the boards? My source of water is a tank filled by a windmill. I have plenty of water, at least at present, and if it would make the celery grow any faster I could water oftener. My tank is about 40 feet high." Celery can stand, and will delight in a good deal of moisture. Although the present season here has been quite wet, heavy rains having occurred at short intervals I have given my celery an occasional soaking with manure water. In all such things, good common sense should be exercised. When the soil begins to get dry, a good soaking may be given. A mere sprinkling is never of much account. Let the soil get thoroughly soaked up; then wait until it gets somewhat dry again before applying another dose of water. We usually let the water from the hose run upon the mulch of manure outside the boards, and let it soak through the soil to the roots. There is no need of running the water between the boards. Excessive wetting might cause rot of the covered stalks, or hearts, as they have no chance to dry out again. It may be possible, of course, to overdo in the application of water, and cause the stalks to grow hollow and worthless. Enough is as good as a feast.

Draining a Slope.—A reader in North Adams, Mass., says he has a slope 200 feet wide, with clay subsoil which he wishes to drain. Will it be better to run one main, with sub-drains, or three or four mains without lateral drains, and how deep should they be? Four feet is a good average depth for drains, and only where not sufficient fall can be had would it be advisable to place the tiles nearer the surface. The deeper the drain the wider is the strip that it will drain. The location of the drains, whether in four or more mains, or in one main with side drains, depends altogether on the conditions. The drains on a slope have the one object, namely, to cut off the head water, and therefore any place where water oozes out from underground veins, must be reached in some way. If the source of supply is above the lot on a hill side, gradually finding its way down hill, a single main with branches running to the upper corners, and other branches possibly running to points equidistant from centre and corners (all branches running obliquely toward the main) may be all right. Under ordinary circumstances it would be the better and simpler plan to lay at least four and perhaps five or six mains.

A Late Crop for Green Manuring.—The same reader says he desires to plow this land at once, and sow something that can be turned under late in the fall; but he is at a loss to know what. For cow peas or soy beans, which are among the best crops for such purpose, it is getting too late in the season. Crimson clover would probably winter-kill. For mammoth clover there is not time enough to come to even a fair development. Rape or some of the quick-growing turnip sorts might be used, but they do not furnish much humus, and add nothing to the soil in the way of plant foods. If the crop to be planted next season is one which permits plowing along in April or May, I would sow rye and let this grow until just a little while before the planting season. Rye used in this way will not improve the soil equal to clover, cow peas or soy beans, or even ordinary field peas, but it is about as good a crop as can now be grown for the purpose, and better than nothing at all.

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Notes from a Kentucky Garden.

J. D. GORDON.

I have twelve acres in garden, fourteen acres of corn, six acres in pasture for my six Jersey cows. I live one mile from a city of 15,000 inhabitants. We have a good market if we are the first ones on the market. Irish potatoes are now only 50 cents per bushel at wholesale. I wholesale everything, but was early enough with my potatoes on the market to get $1.40 for them, besides getting my ground in the second crop. Part of my early potato ground is now in corn and beans. The corn is knee high. Part is in sweet potatoes and the ground is nearly covered with vines now. I got $2 per bushel for my early tomatoes, and am getting $2 per bushel for my sweet potatoes, and 80 cents for butter beans. I have an acre of canteloupes. They will come in next week, but they are late this year. Of tomatoes I raise Fordhook First. I sold 50 bushels of these last year before they were lower than $2 per bushel, and had them two weeks earlier than my neighbor. I would not plant Dwarf Champion if the plants were furnished me. I have a telephone in my house, and when my wagons leave the barn the goods are all sold, and I know just where to go. I also raise chickens for profit. I have one pen of White Rocks and one pen of White Leghorns.

Owensboro, Ky.

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The Right Kind of Pumps.—There are a large number of pumps upon the market; some of which are good and more of which are unsatisfactory. There are a great many of these pumps that work splendidly at first but "peter out" in the service they give. Myers' is "the pump that pumps," keeps on pumping and then pumps some more. F. E. Myers & Bros., Ashland, O., are the largest manufacturers in their line in the country. Another distinctively good article that they manufacture is Myers' Stayon Flexible Door Hangers, with steel roller bearings. They provide against the stock knocking the barn door off the hinges, give constant and complete satisfaction. If our readers are in need of any of the excellent articles manufactured by F. E. Myers & Bros., it will pay them to write for the interesting printed matter issued by this concern. This, we understand, will be gladly furnished upon application if you mention the P. F. when writing.

Best Nursery Stock. At the old reliable Milford Nurseries. Established 1870. Peach trees, 4 cts. Plums and other stock. Shade and holly trees for the lawn. Catalogue. Milford Nurseries, Box 64, Milford, Del.

FARMER'S FRIEND WHEAT.
KING OF THE WHEAT FIELD. A great sensation everywhere. Positively the most wonderful wheat on earth. Excels in all points, and makes the farmer more money than any other variety. Fly proof, very hardy, tests 62 to 65 lbs. per bushel. Big, hard, red berry. Immense yielder. Our catalog No. 23 tells all about it and other valuable sorts. It's free with samples. MAPLEWOOD STOCK FARM, Allegan, Mich.

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We buy or sell them on commission and promise good prices. Eggs, poultry and dried fruits also handled. Write us for prices and references.
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Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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SAN JOSE SCALE and other insects controlled with *Caustic Potash Whale-Oil Soap No. 3.* Send for circulars. James Good, 939 N. Front St., Phila., Pa.

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Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

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GUARANTEED
cheaper than meat; safer than medicine; rich in albumen. It prevents leg weakness, bowel complaint, feather eating and assists in moulting.
50 lbs., $1.25; 100 lbs., $2.25.
Samples sent free.
D. W. ROMAINE, 124 Warren St., New York City.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

San Jose Scale on Shrubs.

Those who fear the coming of San Jose scale among their fruit trees should bear in mind that this pest does not confine itself to fruit trees. Those who may have a collection of flowering shrubs on their grounds may find it on some of those bushes. Many shrubs belong to the same natural order as the greater number of fruits do, and these take the scale just as quickly. The Pyrus Japonica, or fire bush, as many call it, because of its flame-colored flowers, is the delight of the scale. On many private grounds where it had been in use as an ornamental hedge, it has been necessary to root it out and burn it, to get rid of the scale. Osage orange hedges have met the same fate. These two plants are but a small portion of those liable to become infested. Every shrub should be examined at stated times. The Russian olive, the bladder nut, the flowering almonds and many other nice shrubs have carried the pest. The scale can be controlled on fruit trees and on all bushes if spraying is not neglected.

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Horticultural Queries.

Lemon Trees.—Give me all information concerning culture of lemon tree.
Town Creek, Ala. C. ETHEREDGE.

If your lemon is a seedling it must be budded or grafted with a fruiting kind before it bears satisfactory fruit. When treated in this way it fruits in about four years. It may have stopped growing for lack of food. Its roots may be too much cramped. A healthy tree will not stop growing if its roots are in good condition and have what food they want for growth.

Pear Blight.—Please give me a little information concerning blight in pear trees, with remedy for same, if there is any, and what time of year to use. Also directions for mixing Bordeaux mixture.
St. Stephens, S. C. H. H. LORENZ.

Blight on trees is controlled by spraying with Bordeaux mixture. The ingredients are 6 pounds copper sulphate (blue stone), 100 gallons water and 4 pounds fresh lime. Slack the lime in 6 gallons of water; when cool strain it into the copper solution, thoroughly mixing the whole before use. Spray at once if no fruit is on the trees, also a month later, or sooner if rains wash off the mixture. Next year start spraying as soon as the leaves appear.

Dewberries.—I would like to see something in the P. F. from those who have raised dewberries. I have five or ten acres of sandy land which I want to plant this fall or next spring. Will you tell me the best time to plant, how many per acre and the best place to get plants? I would rather have them from a nursery in Missouri or Arkansas.
Fayetteville, Ark. W. R. CANNON.

I think in your State autumn would be the best time to plant dewberries. Set them far enough apart that you can cultivate them readily, probably 3 feet by 3 feet would be the proper distance for them. As you would prefer a Missouri or Arkansas nursery, try Stark Bros., Louisiana, Mo., whose advertisement is now appearing in the P. F. This is a good firm. If they have not the plants in stock they could no doubt get them for you.

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Horticultural Notes.

Cherry Trees thrive best in rather high situations, but if well drained they have been known to do well in close proximity to water. Cold soil they do not like.

Dead Trees.—If you have a dead or dying tree where you want some shade, plant a quick growing vine, or an assortment of vines, about its base. In this way shade and a beautiful object are both obtained.

Wild Flowers.—There are very many of our wild flowers that would make fine objects of interest grown in pots indoors in late winter. In Europe our Solomon's Seal, Polygonatum Multiflorum, is so grown and much valued.

Blood Leaved Trees.—In the way of large trees, the blood leaved beech is the best of blood leaved ones. Of those of a lesser size, Japanese maples, blood leaved plum, berberry, hazel and peach offer a good variety. Blood leaved plum is very satisfactory, as it keeps its color better than others until very late in the fall.

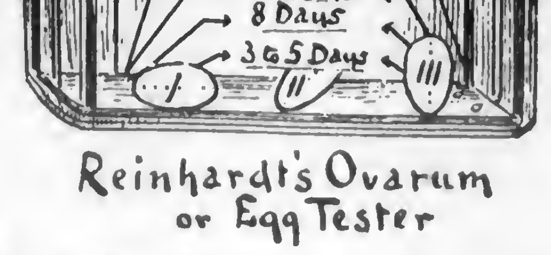
Dwarf and Standard Pears. — As to the relative value of dwarf and standard pear trees, I would plant standard. The gaining of a year or two in the bearing is of little moment against the more permanent tree, which the standard is. And many varieties, the Bartlett and Clapp's, for example, bear in the standard trees when three years old.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

How to Tell the Age of Eggs.—The illustration will give some idea of a new device for telling the exact age of eggs which is now being put on the market in Germany. The illustration is adapted from Die Gartenlaube. The machine consists of one glass vessel into which the eggs are placed, and which, provided with a handle, is then lowered into a larger glass vessel partly filled with weak salt water. The perfectly fresh egg goes to the bottom, where it lies in a horizontal position, as at I. The air space at the larger end of the egg increases in size with the age of the egg. Consequently the egg has an increasing tendency towards getting into a vertical position, with the big end up. When the egg is 3 to 5 days old, it will appear as shown at II; when four weeks old, as shown at III. The back of the larger vessel bears lines drawn at various angles, each line marked with the age. The longer axis of the egg, when it has taken its position in the liquid, is compared with the lines at the back of the vessel, and the one corresponding with the axis gives the age of the egg. An egg three to five days old raises itself from the horizontal position so that its long axis will make an angle of about 20 degrees. At eight days old, the angle has increased to about 45 degrees, at fourteen days old to about 60 degrees, and at three weeks old to 75 degrees. After four weeks the egg will stand straight up on its small end. A bad egg floats. With these directions it will be easy enough for anyone to construct a home-made egg-tester that will practically give as good service as the one described, and which in Germany is known as Rhinehardt's Ovarum or egg tester.



Reinhardt's Ovarum or Egg Tester

Capon Making.—August and September are the months for making capons. It is when young cockerels have not the high money value they had earlier in the season. If one has a good local market for capons, at fair prices, it will pay to turn the May or June hatched cockerels of large breeds—Brahmas, Langshans, Games, Cochins, Wyandottes, etc., into capons. The birds should weigh about two pounds each when operated upon, and not be immoderately fat. The following paragraph is credited to Poultry Farmer: "The instructions recommend opening only one side and removing both testicles from the one incision. To do this requires great skill, and some operators never acquire it. We know of a great many who are very successful in caponizing who make an incision on each side and remove the two testicles from separate incisions. Sometimes both testicles will appear in plain view from one side, and again it will require great effort to locate them. There is a great difference in the interior construction of fowls, and it will be necessary to become acquainted with the various conditions that may arise. Open both sides, and don't pay any attention to added cruelty in making the second cut. It is far less painful than it is to fish around in the dark through the bowels, hunting for the second testicle. Get a good set of tools and begin right."

Of course, we endorse this unreservedly, and we know what we are talking about. With all our personal experience in capon making, we would give up any attempt at it if we had to do the job by making only one incision. The average beginner will invariably fail if he undertakes to get both testicles from one opening; while the job is comparatively easy when both sides of the bird are opened for that purpose.

Breeds for Capons.—The same writer, speaking of the breeds to be recommended for capons, says: "For capons to sell, the Asiatics are best, where you desire to have capons over eight pounds each. If under this weight, the American breeds or a cross bred between these two families. For home use, any male of any breed or variety will do for caponizing, but the better table fowls they are in their natural state, the better capons will they make. Those with a rich golden hue sell the best generally in our city markets, but we well know that the color of the skin has no influence over quality. A well-favored fowl or capon with the thin white skin and pinkish meat is, if anything, better in flavor and delicacy than are any of the yellow-skinned fowls. At the same time, the buying public favors the yellow or golden skin, so it is better to cater to their preference."

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Queries Answered.

Lime for Lice. — P. Hostetler, East Lynne, Mo., writes: "I hear that some parties keep their flocks free from lice by using much air-slacked lime. They throw it over the flock so that it dusts all through them about once a week. What do you think of the plan? Will it keep away all lice, and would the lime hurt the fowls or their eyes?" There can be no doubt that the free use of lime powder, if put in the right place, namely, all through the feathers and next to the body, will rid fowls of lice, and keep them free from lice. Yet it is not likely that such effect could be had from simply scattering lime "over the flocks," even in a closed hen house. There are two ways—perhaps three—of keeping hens free from lice right along. One, and the most natural, is to provide proper material in the right place (if possible in the sun) for dusting themselves. Road dust to which air-slacked or even fresh-slacked dry lime, sifted wood ashes, tobacco dust, insect powder, etc., has been added, will afford a "bath" for biddie which lice cannot long endure. Another plan involves the application of the lice-killing powder (tobacco dust, insect powder, etc.) all through the feathers of the birds by means of a common small powder bellows, or even with the hand and fingers. Smearing lard into which sulphur, or kerosene has been mixed, on the skin of head, rump and wings, may be resorted to as another plan that promises relief. I prefer the dry or powder method. At the same time occasional kerosene applications to the interior of the hen house and to the perches should not be neglected. Some years ago one of our poultry experts constructed a machine for dusting hens at a wholesale rate. It was a revolving box into which a number of birds were placed with a quantity of lime. This box was to be turned rapidly around by means of a crank, mixing birds, lime and everything together in a confused mass and sending the lime dust all through the feathers, etc. It seems a somewhat barbarous way of treating hens, but might be justifiable with chicks having the gapes, as the lime inhaled by them would probably dislodge and eject the gape worms in the windpipes of the little birds.

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About Successful Incubators. — Time was when the hen was indispensable both as a producer and hatcher of eggs. Now, for the latter duty human invention has devised a means of dispensing with her services, substituting the modern incubator which gives results far above her highest attainments. The Successful incubator has played a most important part in establishing what might be called the "modern idea" in the poultry business. Both the incubator and brooder are typical of all that is best for hatching and raising chicks. The incubator is one of the big incidents of the business. Its choice is one of the things on which the poulterer must exercise a wise discretion. If he choose wisely he will have smooth, easy sailing so far as turning fertile eggs into vigorous chickens is concerned. On the other hand, it is possible to install an incubator which will be an intolerable nuisance, bringing continued vexation and may lead to abandoning the business as disagreeable and unprofitable. Send for catalogue to the Des Moines Incubator Co., Dept. 69, Des Moines, Ia., or Buffalo, N Y.

POULTRY Hay, straw, fruits and produce sold on commission. Prompt returns. Careful personal attention to every shipt. Est'd 59 yrs. GIBBS & BRO., Com'n Merchants, PHILA., PA.

Squabs Pay Beat hens
Easier, need attention only part of time, bring big prices, raised in one month. Money makers for poultrymen, farmers, women. Send for FREE BOOKLET and learn this *immensely rich home industry.*
Plymouth Rock Squab Co.,
17 Friend Street, Boston, Mass.

The Root of the Matter.

He Cured Himself of Serious Stomach Trouble, by Getting Down to First Principles.

A man of large affairs in one of our prominent eastern cities by too close attention to business, too little exercise and too many club dinners, finally began to pay nature's tax, levied in the form of chronic stomach trouble; the failure of his digestion brought about a nervous irritability making it impossible to apply himself to his daily business and finally deranging the kidneys and heart.

In his own words he says: "I consulted one physician after another and each one seemed to understand my case, but all the same they each failed to bring about the return of my former digestion, appetite and vigor. For two years I went from pillar to post, from one sanitarium to another, I gave up smoking, I quit coffee and even renounced my daily glass or two of beer, but without any marked improvement.

"Friends had often advised me to try a well known proprietary medicine, Stuart's Dyspepsia Tablets and I had often perused the newspaper advertisements of the remedy but never took any stock in advertised medicines nor could believe a fifty-cent patent medicine would touch my case.

"To make a long story short I finally bought a couple of packages at the nearest drug store and took two or three tablets after each meal and occasionally a tablet between meals, when I felt any feeling of nausea or discomfort.

"I was surprised at the end of the first week to note a marked improvement in my appetite and general health and before the two packages were gone I was certain that Stuart's Dyspepsia Tablets was going to cure completely and they did not disappoint me. I can eat and sleep and enjoy my coffee and cigar and no one would suppose I had ever known the horrors of dyspepsia.

"Out of friendly curiosity I wrote to the proprietors of the remedy asking for information as to what the tablets contained and they replied that the principal ingredients were aseptic pepsin (government test), malt diastase and other natural digestives, which digest food regardless of the condition of the stomach."

The root of the matter is this, the digestive elements contained in Stuart's Dyspepsia Tablets will digest the food, give the over-worked stomach a chance to recuperate and the nerves and whole system receive the nourishment which can only come from food; stimulants and nerve tonics never give real strength, they give a fictitious strength, invariably followed by reaction. Every drop of blood, every nerve and tissue is manufactured from our daily food, and if you can insure its prompt action and complete digestion by the regular use of so good and wholesome a remedy as Stuart's Dyspepsia Tablets, you will have no need of nerve tonics and sanitariums.

Although Stuart's Dyspepsia Tablets have been in the market only a few years yet probably every druggist in the United States, Canada and Great Britain now sells them and considers them the most popular and successful of any preparation for stomach trouble.

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MAKE HENS LAY
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is stronger, better and cheaper than old style netting. Everyone is pleased with it.
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The Practical Farmer.

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PROF. W. F. MASSEY, Editor.

Philadelphia, September 5, 1903

Keeping Manure.

We call attention to the rather brief Cream of the Bulletins this week. While we do not favor the keeping of manure under any conditions, where it is practicable to haul and spread it as fast as made, we nevertheless realize the importance of keeping that which we are obliged to keep in the best manner. We have long been satisfied that manure in box stalls, continually tramped by animals suffered little loss as compared with that thrown in piles either under a manure shed or outside. In fact, if we were going to put manure in a heap we would far rather have the heap out doors than in a covered shed. In a covered shed where there are cattle trampling it the result will approximate that from box stalls. But where the manure is heaped in a covered shed and is not trampled it will lose greatly more than if the heap had been made out where the rain would aid in keeping it moist. We are glad, however, to have our opinion about box stall manure supported by the results obtained at the Pennsylvania State College, and by so good and careful an investigator as Prof. Frear. While satisfied of the superior advantage of the box stall method we are still more satisfied that the best method of handling manure is to handle it as fast as it accumulates daily into the manure spreader and then to the fields. It will lose less there than it will in any place where it is designed to store and keep it. In fact, there is nothing on the farm that pays so little as the keeping of manure.

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Lime, Sulphur and Salt.

We hope that all of our readers who have the San Jose scale insect on their place will, during the coming winter, try the California mixture of lime, sulphur and salt on the trees. It will not do to attempt this before the leaves fall, but as soon as winter sets in, or earlier, as soon as the leaves fall, prepare the mixture and apply it. It is reported that caustic potash can be used in the place of salt and the mixture used cold. We will try this, too, and hope that it is true, for the long boiling of the other mixture is a great inconvenience. The dormant season is the only time when peach trees can be safely sprayed with anything, since the leaves are so tender that almost any spray will cause them to fall in summer. If the white spray is applied in the early spring it will also have some tendency to retard the blooming of the trees, and will thus make the crop more certain where late frosts are common.

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My Land is Poor.

Letters from farmers often begin with this remark, and, as a rule, in the older section of the country, the first query is, "How much fertilizer and what kind shall I use to get maximum crops?" The Experiment Stations have done so much investigating of the manurial needs of crops that in many sections of the country farmers have come to the conclusion that for every crop planted all they need is a special formula for that crop. At an Institute not long since, we heard a chemist tell the farmers that the sole use of commercial fertilizers was to get increased crops and not for the permanent improvement of the land. Farmers all over the land, especially the cotton farmers of the South, have been acting on this principle for generations, and the result is poorer crops and poorer lands. If your land was once fertile, and has been in your hands during the time it has become poor, whose fault is it that it is poor? You have been annually dribbling a little plant food in the form of commercial fertilizers for the sole purpose of getting a little more to sell off the land. The crops have used up all the fertilizer applied and have, in addition, drawn on the resources of the land itself, and year after year you find that the old amount of fertilizers does not give the same results. Then the farmer blames the fertilizer manufacturer and says that the goods are not up to the old standard, while the inspecting chemist tells him that they are all right. Your land has grown poor, not as some imagine, because the fertilizers are "stimulants," as some insist, for they are merely readily available plant food, but they have been used in an injudicious way, and without the aid of a proper rotation of crops. Annual cropping of one crop has been the bane of large sections. The cotton lands of the South have grown poorer year after year, while the farmers have spent millions of dollars for fertilizers. It is not the fault of the fertilizers, for if properly used there is no better nor cheaper means for the development of the productivity of the soil than the commercial fertilizers. It is the way in which they have been used, and not the fertilizers, that have done the harm. The single crop system works only evil everywhere. The wheat lands of the Dakotas and Minnesota are able to stand this drain longer than many other sections by reason of great original fertility. But the bulletins of the Minnesota Station show plainly that these lands are as straight on the road to "old fields" as the cotton lands of the South, and the need of rational rotation is as important there as anywhere. In annually cropping the soil in the same crop it is soon imperatively necessary to use a complete fertilizer mixture, and a complete fertilizer is one having the proper percentages of nitrogen, phosphoric acid and potash, and in such a mixture the nitrogen costs about as much as the rest. But the farmer with a proper short rotation will find that he can get the nitrogen through the growing of clover, peas, or other legumes, and that while getting nitrogen in his soil he is at the same time getting the most valuable animal food, the protein foods, which enable him to make more manure that adds humus and fertility to his soil. In one of the most productive wheat growing sections in this country the farmers have learned since the low price for wheat has prevailed, that they can produce wheat in larger crops and more economically through a three year rotation in which no complete fertilizer is used. One of the most successful wheat growers in Maryland recently wrote to us that for a number of years he has used no commercial fertilizer except plain acid phosphate, that cost him $10 or less per ton, and that during the past twenty years his wheat crop has gone up from 15 bushels per acre to an average of 40 bushels per acre, all through a short rotation and plenty of clover and peas, and his whole county, once very poor, has become one of the finest of wheat growing counties by reason of the short rotation and good farming. On some light lands potash will be needed in addition to the phosphoric acid, and hence it is necessary for every farmer to study the needs of his soil, for no one else can do it for him. Your land is poor because you have not farmed right, and it will get rich just as you farm in a proper manner and stop wasting money for what you can get not only without price, but can make a profit in the growing when properly fed on the farm. You have made your land poor by unbusiness-like methods, now turn about and build it up in a business-like system.

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The Young Men on the Farm.

An Ohio lad writes: "I am a boy, nearing my twentieth year, strong and healthy, and use neither liquor nor tobacco. I understand farming pretty well, and have taken a course in Agriculture, which has helped me greatly. My father is going to buy a Virginia farm this fall, and has money enough to buy 100 acres. Do you think that it would pay him to go in debt for more land, and for me to stay at home and help him, or to go abroad and work for other people? Would not care to do anything but farm. Father can run the 100 acres himself, and cannot give me as good an income as I can get abroad. Would you advise me to work on the third or work on a farm by the month. Such questions often confront other farm boys, and girls, too, and I would like to see a reply in the P. F." Now it seems to us that a man on a farm of 100 acres, if he is going to improve the place, will need some hired help, and that it would be better to have his own son to help him than to depend on the labor he may be able to pick up. It is true that in going to Virginia he can hire negro farm labor far cheaper, so far as the mere price of the labor is concerned, than a young man of energy and ambition can get on a Northern farm. But there is something to be considered besides the mere money price of labor. Would not the labor of a young son who loves the farm be worth a great deal more to the father than the low-priced negro who can only be depended upon when the farmer's eye is on him? The idea is common among farmers that the son should not expect the father to pay him full wages. It may be that our correspondent is an only son. In that case he could afford to work at home for less than elsewhere, for he will be helping to improve what will be his eventually, and the building up of a home is worth of itself a great deal to the future of the son. But there is another point. In a few years our young friend will find a young woman with whom he would like to make a life partnership. He will have far more social advantages in working at home than as a hired man for someone else. Then if he vigorously aids his father in the building up of that 100 acres to its highest state of productiveness, by the time he wants to take a wife the father may be able to buy land nearby for him without going in debt, and he will have aided in this result. Hence it may pay him to labor on the home farm even for lower wages than he could get in working for others. But, on the other hand, land is cheap in the South, and wages for farm hands that are efficient and faithful are high in the North, and our young friend might hire his labor to a progressive farmer in Ohio and be learning more and more while saving all that he can, so that in a few years he may be able to buy the land alongside his father for himself without going in debt, and then both can work for each other and make homes alongside. Where a young man has studied farming in a scientific way, and has a real love for the farm, we are of the opinion that the best thing he can do is to stick by his father and aid in the development of the home farm. Home is worth more than mere wages, and, as we have said, the young man at home will be helping to develop property that will be his eventually and will not be merely aiding in the improvement of someone else's land. One hundred acres of land that is probably run down is enough to occupy father and son both, it would seem to us, until it has produced enough to warrant the purchase of other acres. The young man who sticks by home may not get, for the time being, as large wages as he might get elsewhere, but he will be working for father and mother and home, and there are some things in this life that cannot be measured in dollars and cents. Our advice to every young man on the farm, who loves farming and wants to be a farmer, is to stick to the home roof and help make a farm for himself like our friend Robert did with Mr. Terry, and then build his own roof-tree alongside the home farm. If the father is the man he should be this will be better for both.

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The Cream of the Bulletins.

The Pennsylvania State College Agricultural Experiment Station, State College, Pa. Bulletin 63. Losses in Manure. W. Frear.

This is a comparatively brief bulletin, but shows a very important fact for all farmers. Hence we quote the summary entire: "In 1899-1901, three series of steer-feeding experiments were made, comparing the gains made from animals kept without tying in a box stall and from those tied as usual in ordinary stalls. The former being watered in the stall, the latter turned out daily to water. The results, reported in Bulletins 53 and 57, show that by the former method a very large saving in cost of attendance is secured, without any decrease in the gain of live weight or any disadvantage, as respects the quantity of food required to produce it. The relative economy of the two methods is, however, not fully demonstrated until the value of the resultant manures is known; for these differ materially in the conditions of their preservation. The manure from the box stall was formed upon a cement floor, and was kept under the animals, compacted by their trampling, until the close of the experiment; that from the animals tied in the stalls and watered in the barnyard was, on the contrary, daily removed and stored in a compact heap under conditions closely approximating those of a covered manure shed, except that it was not subject to the trampling of the stock. The fertilizing constituents in food and litter, less those used in forming new animal tissues, were compared with those recovered in the two manures. The comparison is especially interesting because of the increasing use of the covered-shed method in Pennsylvania. 1. The trampled manure suffered little loss of fertilizing constituents, though less than two-fifths of the dry matter of food and litter was recovered in the manure. 2. The covered-shed manure lost one-third of its nitrogen, one-fifth of its potash, and one-seventh of its phosphoric acid. The potash and phosphoric acid losses must be explained by seepage of liquid manure into the clay floor. The loss of nitrogen is, however, chiefly due to volatilization of carbonate of ammonia. 3. The money value of the fertilizer constituents lost by the second as compared with the first method, is equivalent to $2.50 for each steer stabled for six months. 4. Therefore, manure, if prepared upon a tight floor and with such proportion of litter that it can be trampled into a compact mass, loses very little, if any, of its fertilizer constituents so long as the animals remain upon it. This method of preserving steer manure is, therefore, distinctly superior to that of the covered shed, though the latter method may not always exhibit as great loss as that observed in this experiment." The bulletin gives in detail the method of feeding and the food given, in a tabulated form, all of which is worthy of study. Evidently manure can be kept almost perfectly, so far as the fertilizer constituents are concerned, by the use of the first or deep stall method. The experiments of Maerker in Germany show that ammonia is lost very rapidly from such manure if it be allowed to remain after the removal of the stock, without such cover as will retain the moisture and exclude the air.

Our Business Corner

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HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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CONTENTS

AGRICULTURAL. — Damage Done by Weeds in New Seeding and Elsewhere. — Health Hints. — Do not Overwork. 145
The Cow Pea, for the Farm, the Orchard and the Garden.—Importance of Growing Clover in the West. 146
QUERIES.—Cement Floors.—Weevils in Wheat.— Fertilizer Query.— Ducks. —Farming in Arkansas.—Rotation. —Grass on Low Land.—Killing Weeds. — Fertilizers, etc.—Sundry Queries.—Grass in S. W. Mo. 147
LIVE STOCK AND DAIRY.—Feeding Silage to Beef Cattle.—Part 2.—Stock Queries.—Cow Query. 148
Caring for Horses. 149
VETERINARY. — Sore Shoulder.—Reduced Milk Flow.—Sick Cow.—Cough.—Garget.—Udder Trouble.—Bony Exostoses. 149
GARDEN.—Talks on Timely Topics.—Celery Plants. — Hand Weeding in the Shade.—Current Comments.—Watering Celery. — Draining a Slope.—A Late Crop for Green Manuring. — Notes from a Kentucky Garden. 150
HORTICULTURAL.—San Jose Scale on Shrubs. — Horticultural Queries.—Lemon Trees.—Pear Blight.—Dewberries.—Horticultural Notes. 151
POULTRY. — Seasonable Suggestions.—How to Tell the Age of Eggs.—Capon Making.—Breeds for Capons. —Queries Answered.—Lime for Lice. 151
EDITORIAL.—Keeping Manure. — Lime, Sulphur and Salt.—My Land is Poor.—The Young Men on the Farm. 152
CREAM OF THE BULLETINS. 152
COMMERCIAL. 153
HOME CIRCLE.—Prize Offer.—Editorial Chat. — Candles. — Under Existing Circumstances.—"Who is My Neighbor?" 154
All in a Lifetime; Part 9.—Among the Flowers. — Correspondence.—Youth's Parliament. 155
OUR EXPERIENCE POOL.—Topic No. 588.—Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover? Let us Hear of Either or all of Them. 156
SHORT CUTS BY P. F. SUBS.—Keeping a Diary of Farm Work.—Poultry Trough.—Short Work in Chicken Raising.—Four Crops in One Season.—Grit and Bone Crusher.—Cold Supper for Short Cut.—Easy Way to Wash.—Keeping Flour Handy. 157
MISTAKES, FAILURES AND SUCCESSES.—A Good Foot Bridge.—Keeping Old Sheep.—Stretches in Sheep.—Work as Well as Wish.—Easy Way to Wash. — Apples for Spring.—Peas, Corn and Cotton.—Mistake with Peach Trees.—Sticky Fly Paper.—Cooking Breakfast.—Mistake with Fine Potatoes.—Use for Dry Bread.—Garden Hints.—Wheat on Pea Stubble.—Poached Eggs. 158
POSTAL CARD CORRESPONDENCE. 160

One of the encouraging things to the publishers of the P. F. is the many kind words that are said of it by its subscribers. Of course, with over 40,000 different tastes to cater to, criticisms are sometimes made, but it is surprising that there is such a unanimity in the expressions of approval that reach us from all quarters. These things are pleasant and encouraging. It has always been the aim of the P. F. management to make it such an outspoken exponent of the agricultural interests of the country that it would compel commendation. That we have been successful thus far is evidenced to us by the almost unbroken voice of approval which reaches us from our subscribers.

COMMERCIAL

Philadelphia, Aug. 29, 1903.

WHEAT.—			
No. 2, red, spot and Aug.	81½	@	81¾
No. 2, Penna. and Del.	83½	@	83¾
No. 3, red	76½	@	76¾
CORN.—			
No. 2, spot and Aug.	55¾	@	56
No. 2, yellow, track	61½	@	62
No. 3	51¾	@	52
OATS.—			
No. 2, white natural, new	40	@	40½
LIVE POULTRY.—			
Fowls, hens, per lb.	12	@	12½
Roosters, per lb.	9		
Spring chickens, per lb.	14	@	15
Spring ducks, per lb.	12	@	12½
Old ducks, per lb.	11	@	12
DRESSED POULTRY.—			
FRESH KILLED.			
Fowls, choice	13½		
Fowls, average	12½	@	13
Old roosters	10		
Broilers, nearby	14	@	16
do Western, d. p.	14	@	15
do do do av	12	@	13
do do scald	11	@	12
BUTTER.—			
West. creamery, 1sts to extra	18	@	20
Ladle packed	13	@	15
Prints, nearby, 1sts to extras	20	@	21
Prints, West. do do	18	@	20
EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
Nearby fresh, ret'bl crates, L	22		
Western, choice, free case, L	21	@	21½
No. West. do do L.	21½	@	22
So. West. do do L.	20	@	20½
So. choice do do L.	18	@	18½
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	10½	@	10¾
Fair to good	9¾	@	10¼
State, part skims, prime	6	@	8
Domestic Swiss, No. 1 new	13	@	13½
GREEN FRUITS.—			
Plums, N. Y., 8-lb. basket			
Burbank	14	@	16
Damson	20		
Reine Claude	18	@	20
Green Gage	15	@	18
Yellow Gage	15	@	18
Prune	20	@	22
Bradshaw	15	@	18
Blue	14	@	16
Common	10	@	12
Blackberries, per qt.	8	@	10
Peaches Del. & Md., bas.	1.25	@	1.50
Grapes—			
Del. & Md., Concord, car.	60	@	90
Moore's Early, carrier	60	@	90
8-lb. basket	15	@	18
Watermelons, So., car.	100.00	@	200.00
Canteloupes, per crate	75	@	2.50
Whortleberries, per qt.	7	@	10
APPLES AND PEARS.—			
Apples, per bbl.	1.00	@	2.50
Per basket	20	@	50
Pears, N. Y. Bartlett, bbl.	3.50	@	4.00
Clapp's Favorite, per bbl.	3.00	@	3.25
POTATOES.—			
Jersey, per bas.	20	@	25
Sweets, Va., pr., yellow, bbl.	2.25	@	2.50
do N. C., red & yel., bbl	1.75	@	2.00
do Jersey, ⅝-bu. bas.	60	@	75
BEANS AND PEAS.—			
Beans, marrows, H. P., bu.	2.60	@	2.85
Pea beans, H. P., 1902, bu.	1.90	@	2.15
Green peas, per bu.	1.50		
Scotch peas, per bu.	1.55		
COTTON.—			
Cotton, per cwt.	12.75		
FEED.—			
Bran, bulk, winter, per ton	18.00	@	18.50
Bran, sacked, spring	18.00	@	18.50
HAY AND STRAW.—			
Timothy, West., No. 1	17.50	@	18.50
do West., No. 2, small	15.00	@	16.00
Timothy, mixed Western	12.00	@	16.00
Straw, straight rye	14.50	@	17.00
Oat	8.00	@	10.00
Wheat	8.00	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady for best grades.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4½	@	4¾
Common steers	4	@	4¼
CALVES.—			
Veal calves about steady.			
Extra calves	7½	@	8
Fair to good	6½	@	7
Poor and common	5	@	6
Grassers	3	@	4½
HOGS.—			
Hogs active.			
Fat hogs, Pa. & Del.	6½	@	7¾
Fat hogs, Western	8	@	8½
SHEEP.—			
Sheep and lambs about steady.			
Sheep, extra	4¼	@	4½
Sheep, good	3½	@	4
Sheep, medium	3	@	3¼
Sheep, common	2	@	2½
Lambs, spring	4	@	6½

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New York, Aug. 29, 1903.

WHEAT.—			
No. 2, red, spot	87⅜		
No. 1, No. Duluth, new, f.o.b.	95⅛		
CORN.—			
No. 2	58½		
No. 2, f. o. b.	59½		
No. 2, white, f. o. b.	59½		
No. 2, yellow, f. o. b.	60½		
OATS.—			
Standard, white	41	@	42
No. 2, white	41	@	42
No. 2, white clipped	42	@	43
No. 2, mixed	38¼		
No. 2, clipped	38¾		
No. 3, mixed	37¼		
No. 3, white clipped	41½	@	42
No. 3, white	40	@	41
HAY AND STRAW.—			
Timothy, pr., l'rg bales, cwt.	1.00	@	1.05
do No. 1	90	@	95
do No. 2	85	@	92½
Clover, per cwt.	50	@	55
Clover, mixed	70	@	75
Straw, long rye, per cwt.	95	@	1.10
BUTTER.—			
Creamery—			
Firsts to extras	18	@	19¾
State dairy, tubs—			
Firsts	17	@	18
Western Factory—			
Firsts, current make	15	@	15½
West. Imitation Creamery—			
Finest	16	@	17
Renovated—			
Firsts to extras	16	@	17
Packing stock—			
No. 1, current make	14½		
No. 2 and 3 current make.	12	@	14
CHEESE.—			
State, f. c., small, fancy	10¼	@	10⅜
Good to prime	9½	@	10
Large colored, fancy	10		
Large white, fancy	9¾		
State, light skims—			
Choice	7¾		
Part skims, prime	6	@	6¼
Full skims	1	@	1½
EGGS.—			
QUOTATIONS AT MARK.			
Nearby, fancy selected, white	24	@	26
Mixed lots	21		
State and Pa., f. g., extras	21		
Seconds to firsts	17½	@	19½
Western, fresh gath., extras	20	@	20½
Firsts	18½	@	19½
Dirties, No. 1, candled	15		
No. 2	12	@	14
Checked eggs	10	@	12
LIVE POULTRY.—			
Spring chickens, nearby, lb.	14		
Southern, per lb.	13½		
Fowls, per lb.	12½		
Roosters, per lb.	8		
Turkeys, per lb.	11		
Ducks, West., av., pair	60	@	75
So. and So. West., pair	40	@	60
Geese, West., av., pair	1.12	@	1.25
So. and So. West., pair	90	@	1.00
Live pigeons, old, pair	25	@	30
Young, per pair	20	@	25
DRESSED POULTRY.—			
Turkeys, spring, per lb.	16	@	20
Old, per lb.	14	@	16
Broilers—			
Phila., fancy, per lb.	18	@	19
Mixed sizes, per lb.	15	@	17
State and Penna., best, lb.	15		
Mixed sizes, per lb.	12	@	14
Ohio & Mich., scald., fancy.	14		
Western, d. p., average best.	13		
Scalded do do	13		
Dry picked or scald, mixed	12½	@	13
So., scalded, small, per lb.	11	@	12
Fowls—			
Ohio & Mich., per lb.	12½	@	13
West., scalded, av. best, lb	12½		
Dry picked, av. best, lb.	13		
So. & So. West., d. p., lb.	12½		
Scalded, per lb	12		
Old cocks, per lb.	8½	@	9
Spring Ducks—			
L. I., per lb.	17½		
Eastern, per lb.	17½		
Jersey, Pa., & Va., per lb.	15	@	16
Western, per lb	11	@	13
Spring geese, East., per lb.	17	@	18
Squabs—			
Prime large white, doz.	2.50		
Mixed, per doz.	2.00		
Dark, per doz.	1.50		
APPLES AND PEARS.—			
Apples—			
Orange Pippin, per bbl.	1.75	@	2.25
Fall Pippin, per bbl.	1.50	@	2.25
Nyack Pippin, per bbl.	2.00	@	2.25
Dutchess of O., per bbl.	2.00	@	3.00
Maiden Blush, per bbl.	1.75	@	2.25
Gravenstein, per bbl.	2.00	@	3.00
Strawberry, per bbl.	1.50	@	1.75
Alexander, per bbl.	3.50	@	4.00
Codling, per bbl.	2.00	@	2.50
Twenty Ounce, per bbl.	2.00	@	2.25
Ordinary fruit, all kinds.	1.00	@	1.50
Half-bbl. baskets	50	@	75
Pears—			
Nearby, common, bbl.	1.25	@	2.00
Kieffer, bbl	1.50	@	2.00
Clapp's Favorite, bbl.	3.00	@	4.00
Bartlett, Del., ½-bbl. bas.	1.50	@	2.00
New Jersey, bbl.	4.00	@	5.00
Up-river, bbl.	3.50	@	4.50
Bell, bbl.	2.25	@	2.75
Beurre d'Anjou, bbl.	2.50	@	3.50
Flemish Beauty, bbl.	2.50	@	3.00
GREEN FRUITS.—			
Pineapples—			
Fla., Red Spanish, crate	2.00	@	3.00
Smooth Cayenne, crate	1.75	@	2.25
Havana, Red Spanish	1.00	@	2.00
Abbaka, crate	1.50	@	2.00
Grapes, Up-river, car., Del.	1.25	@	1.50
Up-river, car., Niagara	1.25	@	1.50
Champion, case	75	@	90
Moore's Early, per case	90	@	1.10
Muskmelons, Jer., bu. box	30	@	50
Maryland, per crate	75	@	1.50
Balt., crate, selected	2.00	@	2.25
Average, crate	1.00	@	1.50
Norfolk, crate	30	@	60
Norfolk, bbl.	75	@	1.25
Western, fancy, per crate	3.00	@	4.00
Watermelons, per 100	8.00	@	18.00
Per car, best	150.00	@	175.00
Average	100.00	@	140.00
Peaches, Md. & Del., basket	1.00	@	1.50
Per carrier	2.00	@	2.75
West. N. Y., 2-bas. carrier	1.25	@	1.50
Per basket	50	@	1.00
Jer., best, per bas.	1.00	@	1.25
Common, per basket	50	@	80
Pine Island, av., per bas.	75	@	1.25
Plums—			
Japanese, 8-lb. bas.	15	@	22
Large, blue, 8-lb. bas.	25	@	30
Common, 8-lb. bas.	10	@	15
Egg, 8-lb. bas.	18	@	20
Damson, 8-lb. bas.	30	@	35
Blue Gage, 8-lb. bas.	17	@	20
Bradshaw, 8-lb. bas.	22	@	25
Green Gage, 8-lb. bas.	20	@	22
Lombard, 8-lb. bas.	16	@	18
Huckleberries, per qt.	6	@	10
VEGETABLES.—			
Cabbage—			
Long Island, per 100 head	6.00	@	7.50
Balt., per crate or bbl.	1.25		
Old carrots, per bag	80	@	1.00
Cucumbers—			
Baltimore, per basket	75	@	1.00
Jersey, bu. box	1.00	@	1.50
Per bbl.	2.75	@	3.25
Baltimore, per bbl.	3.25	@	3.50
West. N. Y., per bu. bas.	1.75	@	2.00
Cucumber pickles, per 1,000	3.00	@	4.00
Cauliflower, per bbl.	1.50	@	2.00
Celery, fancy, doz.	40	@	45
Good to choice, per doz.	15	@	35
Washed, per doz.	50	@	60
Eggplants, Jersey, bbl.	1.25	@	1.50
Per bu. box	40	@	50
Per ½-bbl. basket	60	@	70
Green corn, per 100	1.50	@	2.00
Lettuce, Boston, per case	1.25	@	1.50
West., N. Y., per case	1.00	@	1.50
Lima beans, potato, per bu.	1.75	@	2.00
Jersey, flat, per bu.	1.50	@	1.75
Peas, West. N. Y., basket	1.75	@	2.00
Per bag	1.50	@	1.75
Peppers, Jersey, per box	35	@	45
Per bbl.	1.15	@	1.20
String Beans—			
West. N. Y., bu. bas., gr.	75	@	1.00
Bu. basket, wax	75	@	1.00
Squash, So., white, bbl. crate	1.00	@	1.50
Marrow, bbl. crate	65	@	75
Yel. crookneck, bbl. crate.	75	@	1.00
Tomatoes, best Jer., per box	55	@	60
Acme, per box	1.00	@	1.25
Choice Jersey, per box	40	@	50
Baltimore, crate, Acme	90	@	1.00
Maryland, baskets	40	@	50
Russia turnips, bbl.	1.25	@	1.50
Onions, N. J., yellow, basket	1.25	@	1.50
White, basket	1.25	@	1.75
White pickling, basket	1.50	@	2.50
Denia, crate	1.05	@	1.20
L. I., yellow, per bbl.	2.25	@	2.50
Orange Co., red, bag	1.75	@	2.25
Orange Co., white, bag	2.00	@	3.00
Connecticut, yellow, bbl.	2.50	@	3.00
Connecticut, white, bags.	4.50	@	5.50
Connecticut, red, bags	2.50	@	3.00
Ohio, bbls., yellow	2.50	@	2.75
POTATOES.—			
Long Island, prime, per bbl.	1.50	@	1.75
Jersey, prime, long, per bbl.	1.25	@	1.37
Jersey & Md., pr., round, bbl	1.37	@	1.62
Per bag	1.30	@	1.40
Sweets, So., yellow, per bbl.	2.25	@	2.50

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Explanation of Market Terms.

The market quotations of fertilizers and fertilizer materials are certain terms which may not be familiar. For instance, tankage or any other material containing nitrogen may be quoted at a certain price "per unit" of ammonia, and elsewhere you may find the price of potash salts or phosphoric acid as so much per unit. In the fertilizer trade these things are always sold by the unit, a unit being one per cent. on the basis of a ton, or twenty pounds of the ingredient named. A unit of ammonia, then, at $2.50 would mean that the ammonia is worth 12 cents per pound. Reduce this to nitrogen and you will find that at this price the actual nitrogen costs a little over 14.5 cents per pound. Then when muriate of potash or sulphate of potash are quoted 80 per cent. in the case of the muriate, it does not mean that there is 80 per cent. of potash, but of the muriate pure, which would make the actual potash 50.56 per cent. If high grade sulphate of potash is quoted at 90 per cent. it means that the actual potash in it is 48.6 per cent. In other words, to find the actual potash in muriate, multiply the percentage by 0.632. To get the actual potash in the high grade sulphate multiply the percentage by 0.54. The same rule will apply to the double manure salt or low grade sulphate of magnesia-potash.

AGRICULTURAL FERTILIZERS.

AMMONIATES.			
Nitrate of soda, per cwt.	2.25	@	2.30
Sulphate ammonia, per cwt.	3.20	@	3.25
Tankage, per unit ammonia	2.12½	@	2.15 and 10
Dried blood, N.Y., low grade	2.65	@	2.75
do West., high grade, fine ground	2.55	@	2.65
Cottonseed meal, ton, c. i. f. N. Y.	27.00	@	28.00
Fish scrap at N. Y.	2.55 and 10		
PHOSPHATES.			
Acid phos., 12-16 p. c., unit	60	@	67½
Bone black, per ton	18.00	@	19.00
Ground Bone, per ton—			
Steamed, f. o. b., Chicago	18.00	@	19.00
Raw, f. o. b., Chicago	22.00	@	23.00
POTASH.			
Muriate potash, 80 p. c., future shipment	1.83	@	1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11	@	2.20
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.12	@	1.24
Manure salt, in bulk, 20 p. c. per unit, O. P., basis 90 p. c.	64		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaines	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best five manuscripts that reach our desk before October 22. None considered unless sent direct to Mrs. V. C. Melville, Sun Prairie, Wis.

Editorial Chat

In the Prize Contest of Aug. 7th the following awards have been made, the prizes being one dollar each:

Mrs. E. C. Tolland, Nebraska; Mrs. J. B. Converse, Tennessee; Mrs. W. Boles, Michigan; Annie Stockinger, Indiana; Wilbur Lincoln, Massachusetts.

* * * * * * * *

A sister asks for the address of "The Animal's Defender." We have not happened to hear of this publication. Anyone who can answer will confer a favor.

* * * * * * * *

We hope the boys and girls of the H. C. are busy at work on those 50 name trial subscriptions. Remember that a year's subscription to the Youth's Companion, or an American watch is the premium given for each club.

* * * * * * * *

A New York sister writes concerning Miss Sheppard. She would like to learn to embroider if someone could send us plain, simple instructions. She is now doing hemstitching and manages the work easily, despite her poor deformed little hands. Let all lovers of fancy work embrace this as an opportunity to help somebody. Miss Sheppard hopes to be able to earn something by this means. The sister suggests that those wanting handkerchiefs stitched patronize her.

A Wisconsin reader urges donations of second-hand clothing and the like, that she may not suffer with cold as she did last winter. Doubtless Miss Sheppard's paralyzed condition makes her more sensitive to cold, as it necessarily interferes with the entire circulation. And this reminds us to urge that enough blocks be sent to Miss Ellen Kinney to enable her to finish her quilt soon.

And now we have the opportunity to brighten another life, and this time it is that of a young man, scarcely more than a boy. His mother, in describing the case, says:

"Our boy is eighteen years old. He was thrown from a horse one year ago last April. His spine was crushed. We took him to Springfield to a surgeon. He was operated on but is now a paralytic. Has to lie all the time; cannot turn only as we turn him. He has a good education; graduated a little while before the accident. He writes a good deal. Took a P. F. prize once. Anything that would relieve the monotony of his life or help him to earn a little would be a great blessing to him." She did not give her son's name, but signed her own—Mrs. Jessie Dugger, Hettick, Illinois.

We think this a very sad case. An ambitious youth thus stricken seems exceptionally lamentable; but if he wills it so his life may yet be a grand success.

"A broken and emptied vessel for the Master's use made meet." In the home he may turn shadows to sunshine. His couch may be the Bethel about which the family gather at every spare moment. Sometimes it seems to us that the shut-ins are the peculiarly favored ones; shut out from the allurements, temptations and annoyances of the world; shut in with love and God.

Doubtless in this case fond ambitions have to be surrendered; all the joyous dreams and plans of youth abandoned, but there are other things—and so long as God gives us life we may be sure that it is worth the living. We hope all the H. C. will interest themselves in this young man. Here is a chance for the men folks, too. We have not heard of any of them, save Dr. Haynes, contributing sunshine to our shut-ins. In this case we hope they will assist us in our good work. Write to him, send him reading and, if possible, find some means by which, with his hands, he can earn something. If it is only a little, it will lessen the bitterness of utter helplessness and dependence. We would inquire of the mother if he could manage a bracket saw, or, with the aid of a sister or brother, a knitting machine?

Let us do the little we can; "we shall not pass this way again."

* * * * * * * *

Frequently we are asked by H. C. readers —men and women—if we know of any sure and harmless "antidote" for gray hair. We believe we can truly reply in the affirmative now, and will privately give information when desired. Gray hair is beautiful when even and really gray, but when plaided with "green and gold," as too many heads are, it is little wonder parties prematurely afflicted seek a harmless "cure."

Prize Article.

Candies

E. C. TOLLAND.

To the mother with limited pocketbook, these hints on making candies may be welcome, especially for the coming Christmastide, when one's purse is usually taxed to the utmost in buying gifts for family and friends. To the children Xmas without candy is as disappointing as the Fourth of July without firecrackers. Where is the child who does not like candy, and who does not hoard his pennies, whether many or few, to be invested with the confectioner on his occasional visits to town? For the child with a well developed sweet tooth a certain amount of sweets are harmless if not really beneficial to the system, provided the sweets are pure. Very little of the so-called cheap candy is pure, and ofttimes it is colored with poisonous matter. A physician of our town says it is unfit for an adult, and think how much less fit to be introduced into a child's delicate stomach. I believe this to be the cause of so much sickness among children soon after Christmas. We are living in an age of adulteration, and candies are no exception. To buy the pure sugar or cream candies requires more money than many mothers feel they can afford, but it is possible to have them and at no greater expense than buying the cheap ones. They are so easily made that if the directions are followed it is impossible for the amateur to fail.

Boil in a granite sauce-pan, slowly and without stirring, three cups of granulated sugar and one-half cup of cold water. Test the syrup by dropping a little in cold water, and if it becomes waxy it has boiled sufficiently. When partially cool stir with a large, bright spoon until it begins to roll, then add a tablespoonful of thick, sweet cream. Knead with the hands until soft and pliable. This is called "fondant," and is the foundation of all French candies. Divide the fondant into several parts and flavor each with a different kind of extract. To color candy a delicate pink, dissolve a very small amount of red sugar in the extract to be used. Add to the fondant and knead until evenly colored. Violet colored candy can be made by using a little blue sugar as you do the red. To color brown add a tablespoonful of melted baker's chocolate to the fondant. Now you have four colors, white, brown, pink and violet. For rainbow candy, roll with the rolling pin, a small piece of each color; pile together and cut into thin strips with a sharp knife. This is a very attractive looking candy and is delicious. We think to flavor the pink with banana extract, the blue with lemon, the white with orange and the brown with vanilla, is a good combination, but of course other flavorings may be substituted.

For chocolate creams form the fondant into cones and with a hat pin or darning needle dip into melted chocolate and lay on greased paper to harden. Walnut creams can be made by dipping small balls of the fondant in melted chocolate and pressing half an English walnut on the top of each. Mould small balls of the different colored fondant and flatten by pressing the half of a walnut on the top of each. If desired, the centre of these candies can be filled with cocoanut, or chopped figs or dates.

For cocoanut balls melt a part of the white fondant, by setting the bowl containing the fondant in a pan of boiling water and adding grated cocoanut until the mixture is stiff. Flavor, form into balls and roll in red sugar. The prepared cocoanut is quite expensive. One can buy a nut and grate it. It answers just as well and only costs a trifle. If you grate the cocoanut it must be thoroughly dried before using.

Another delicious confection is made by dipping the kernels of nuts in the melted fondant and allowing them to harden. Some think the candy is improved by leaving the fondant twenty-four hours before moulding. Place in a stone jar and tie a damp cloth over top to prevent it from becoming hard.

For peanut candy melt a coffee cup of granulated sugar in a granite sauce pan and stir constantly to prevent scorching, until melted. Add a piece of butter the size of a hulled walnut and pour on a buttered plate containing five cents' worth of shelled peanuts. Mark in squares before cold. It is unnecessary to give a recipe for fudge; everyone has one, but we think it is improved by adding nuts. Let the children help make the candies. So many mothers feel that they haven't time to be bothered, but the little ones enjoy it so much, and really it is not very much trouble. Such times will be among the bright recollections when they are grown and scattered far away.

Nebraska.

[One afternoon, some weeks since, we asked, while in a store, for some cinnamon drops. They had none but substituted some red wintergreen lozenges; that is, they were called "wintergreen." We always object to them, and in this instance ate only a few, but they were just that many too many. Some poisonous acid had been used to simulate wintergreen and we were wholly deprived of the ability to taste anything for some days, and even yet we spoil almost everything we try to season or sweeten; taste completely demoralized. Felt as if the back of tongue was covered with hairs; continually tried to cough them up. Moral: Don't give the children any candy that you do not know is pure.—Ed.]

Prize Article.

Under Existing Circumstances.

MRS. J. B. CONVERSE.

O, for the pen of a ready writer, to wield in behalf of the overworked women of our land, the beauties of which so many are too weary with much serving to see and enjoy. Let me beg of you, overworked ones, to take time to enjoy it! Take time for some pleasure. You go this way but once; take and give happiness as you go. As Mr. Terry tells the farmers, "Do away with some of the chores" and a great deal of unnecessary work, and some that may seem necessary, until we find we can let it go undone. To begin at the beginning, teach the children to obey from the first; don't humor them. Feed them, not too much, plain, nourishing food. Dress them plainly. Teach them to amuse themselves.

Have a place for everything and teach them to put everything in its place, and the old folks to do the same. Teach and allow the children to help you; there are many things they can do. Next, have method about your work, as much as you can. Not so much, however, that the frustrating of a single plan will throw the whole arrangement for the day out of plumb, and the house mother out of temper.

Cook as little as possible so as to have plenty of plain, wholesome, appetizing food.

Have fewer nice (company) clothes and more, perhaps, plain, well made every day ones. Have fewer tidies, etc., less bric-a-brac and dust catchers in the rooms; more rockers, swings and hammocks in veranda and yard, and find time to occupy them. Where the family is large the washings will be the same. Arrange for it the best you can, by soaking clothes over night, or beginning in afternoon and getting white clothes to soak in rinse water over night. Do less starching and ironing; everyday tablecloths and ordinary pillow cases will do very well without having the iron touch them. Fold the clothes off the line and thus avoid ironing many of them, and those you are compelled to iron are easier to do. Sweep the whole house, or have it done, once a week, and avoid much everyday sweeping. Friday and Saturday prepare for Sunday, so as to be able to go to church and take the children. If both cannot go, take turns, husband and wife, and each take some of the children.

When there is sickness in the family, neighbors help each other; if not in the sick room—this is not always advisable—help about the housework or farm work, and thus "bear one another's burdens."

Study ways and means There are many who do not want to economize work, but many who do, and to them I will say, don't strive to do as others do, but do what is best for you, under existing circumstances.

Tennessee.

Popping of lamp-chimneys is music to grocers.

MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp on chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.

ADVICE TO MOTHERS
Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

Prize Article.

"Who is My Neighbor?"

MRS. W. BOLES.

This question was asked many years ago, but it comes ringing down the ages. We are prone to consider neighbors as people living in our immediate vicinity. As Americans we are noted for rushing about, and many of us seem to forget, for a time, we have any neighbors. We join different clubs and societies to be sociable. There we meet many people whom it is a pleasure to know, and many times find it very profitable also, and we let nothing hinder us from attending every meeting of these societies.

But methinks I see in nearly every community some aged or invalid person, whom we seem to forget, as it were, "we are so busy;" "so much to do," we cannot find time to call upon them. Days pass into weeks, and weeks into months, and that visit we meant to have made becomes a "might have been." By and by our friend is taken sick, then we all rush to be of some use; then we make that call that should have been made long ago. We are so anxious to be of some assistance. "Is there anything we can do?" or "Don't be afraid to call on me any time." But no, our friend is too sick to admit of callers, and our assistance is refused with all kindness. After a time she is convalescent; then how much good we may do in a few minutes' call. Go in with something bright and cheerful to say; leave something pleasant for her to think of after we are gone; but no, "we have so much to do we cannot find time to go, and, besides, she is getting better." Perhaps she lingers some time in this convalescent condition—neither sick nor well. But one day the community is shocked to hear that she has passed away. Then again we urge our services. "Is there anything we can do?" No, our friend has gone; our duty is to the living now. But we must be sure and go to the funeral—a mark of respect, you know. At the day appointed we are all there from miles around. We pick some of our choicest flowers, or, if we have none, we go to the greenhouse and buy a few to lay on our friend's casket. We want to do something. But pause a moment; does our friend need or appreciate all this now? Would not these flowers have pleased her could she have had them during her illness? Are we not doing this to be seen of men? The family might think we did not have much respect for them if we did not do something. But let us turn the tables and put ourselves in her place, as it were. What will it matter to us when we are lying cold and still, whether there are flowers in our casket for others to admire? Would we not rather our friends would come to see us when we are able to see them than to have a large funeral? Then there are the lonely hours spent by the family for weeks and months afterward, that no one thinks anything about, but those who likewise have passed under the rod. We might call and help them to pass some of them, but how very few of us do with our might what our hands find to do? Readers, this is no overdrawn picture or sarcasm; we see these very things done in almost every community. Is it not so in yours? It ought not to be so. "It is not good for man to be alone" can be applied in more ways than one.

Michigan.

[We heartily endorse the above, but would add, don't censure people if they "take on" when a friend dies. There is a great difference in dispositions. What one heart requires another may not. We know a woman now who is almost crazed with grief over the death of her only child, a daughter in her teens. People say "No harder for her than for anybody else. She ought to use common sense." Such remarks make our blood boil. Let each one bear her grief in her own way. It is not for you or us to criticise. Don't go around telling grief stricken people not to cry. Rather say: "Yes, poor heart, get relief if you can in this God appointed way." "Jesus wept." Beneficial the physical exhaustion that relieves the mind and heart. Don't preach to people when in trouble. If you can't sympathize don't say anything.—Ed.]

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All in a Lifetime—Part 9.

VELMA CALDWELL MELVILLE.

To most brides of a few weeks, the homecoming at Christmas of an absent husband brings joy without measure. In her heart Patty Pearl Glen knew this, but she knew, too, that her joy was of the make-believe kind. She wanted him to come as a break in the well nigh intolerable monotony of life at The Place, and in the hope that he would take her home, but the thought of his personal presence did not cause one extra heart beat or stir the blood in her veins. Yet she feigned the utmost delight, and simulated great impatience when he was one day later than she expected.

But he came at last—gay and full of life, and as fondly loving as the most exacting wife could wish. Patty met him quietly but cordially, and for a few days she imagined herself happy and almost in love with him. Then there came a letter from Aunt Ruth, saying Jeff Greely was "a heap worse."

"Worse!" exclaimed Mrs. Glen. "Doctor, what does she mean?"

"Why, I told you, I think—"

"You have not mentioned his name," she burst out unguardedly.

Harry Glen's face darkened and took on a look his wife had never seen there before.

"Was it—is it of such moment to you?" His voice was sneering.

"Indeed it is," she replied, not pretending to notice face and manner. "It is of moment to me if anybody in Westover neighborhood is sick. Remember all my friends are there."

The doctor opened his lips then closed them firmly. When he spoke again his voice was wholly different, and he drew his wife down beside him.

"Never mind, dearest, I believe I am jealous of Jeff Greely. I love you so wholly and entirely that I cannot bear to think that another holds even a little part of your affections. Tell me, Pearl, that you love me, and me only—tell me that, with your hand on your heart, love."

He held her glance with his own. Swift, the red blood flooded her face, then gradually it receded, leaving her whiter than even her wont.

"Yes, I love you, Harry; a wife always loves her husband—doesn't she?"

If Harry Glen caught the pathos in the question he ignored it, for he was thinking only of himself.

"Not that, Pearl, not that! Do you love me better than anything or anybody else in life—tell me that!"

Down went her head on his shoulder. There was a choking sob or two, then she raised a cold, proud face.

"If you doubted my love why didn't you cross-question me before marriage?"

He knew why he had not; he had not dared. Now she was his, whether she loved him or not, and could not help herself; he could not lose her. In his soul he felt the wrong he had committed. He was not blind to the fact that he had won her unfairly, but he was a man, and a selfish one.

He ought to have been satisfied. He loved her and she was his wife. If she did not love him it was the worse for her, but he did not take it so. If she did not love him she ought to; if she did not, she was wronging him. So he reasoned, and so he nourished his grievance.

"But if Jeff is worse," she went on presently, "ought you not to go back?"

"Do you want me to, Patty?"

She started. He had never called her that before. That was Jeff's name for her.

"Yes, I want you to go to him and take me to Aunt Ruth."

"Just the other way I fancy, but we won't discuss it. No, I shall take my two weeks off. Dr. Moffit will attend to my patients."

The matter was not referred to again until one morning a week later, when another letter came from Aunt Ruth, and here is what it said:

"Dear Patty Pearl:—I'm clean tuckered out but I must let ye know that your old beau, Jeff Greely, died just as the light was breaken this morning. I've been there most of the time fer ten days. It was liver complaint, as the doctors said, I 'spose, but I had a talk alone with him yesterday 'nd it wa'n't all liver complaint. Poor fellow, I s'pose he couldn't help it if he was uncommon foolish. I don't reckon there's many like him, leastways I hope not. Funeral day after tomorrow at two o'clock. The Jelby boys are going to set up tonight and the Waynes tomorrow. Mrs. Waddle's cousin from Shelby 's goin to preach. They asked Jeff what he wanted sung, but he said he didn't care. They're going to have a hearse. Mrs. Greely says the most they can do fer Jeff aint none too much. Now I'm right near asleep, so goodby. Why don't you come home? Seems to me you needn't cut your old friends jest 'cause yer haven a fine time down there. I aint finden fault, though.

Your Aunt Ruth."

Dr. Harry Glen was furtively watching his wife as she read this letter. In his pocket he had one from Dr. Moffit announcing the death. Patty Pearl's face grew ghastly white and her hand trembled, but after reading it through twice she calmly folded it and replaced it in the silken bag suspended from her waist.

"You know Jeff Greely is—is gone?" Her voice sounded strange and hard, but she had herself under perfect control.

"Moffit notified me," was the terse reply.

She passed out of the room and upstairs.

Harry Glen felt almost as if he were a murderer, and worse than this, he somehow felt that in that hour he and his wife were irrevocably estranged. He went out and took a walk, as anxious for solitude as his wife. He tried to reassure himself on the score of guilt. He had done his best professionally for his old rival, and Dr. Moffit was his equal. The man had been thoroughly reduced before he was called, and remedies seemed without effect. As for winning Patty Pearl he had done that in fair fight. A man had a right to win the woman he loved if he could. As for his wife—then he began to pity himself again and feel himself a long suffering martyr. But he could take her back with him now; this was some satisfaction.

He wondered what was in Aunt Ruth's letter that Patty Pearl had not handed it over as she usually did. Here was another grievance, and then he resolved to see that letter at any cost, but he never did.

(To be continued.)

Among the Flowers.

ROSIE L. M. TULL.

Ambrosia is a very pretty plant, but can hold no claim on beauty of blossoms, but it advances with a pretty green, fragrant foliage and can right royally take a place mid masses of other annuals, and when admitted in a bouquet plays quite an essential part. Here is what a leading florist has to say of it and which I give as a description for the benefit of those who have never seen it. "Ambrosia—this is a very hardy annual which has been known a long time, though has never been introduced. Its merits are long spiral stems covered with beautiful green foliage and seed buds, which are exceedingly fragrant. It is as desirable as the rose geranium as a plant with fragrant foliage and for making up into bouquets and other floral work. Its beautiful, long spirals of lovely green are unsurpassed. It is one of the easiest plants to grow and seed can be sown early in the open ground. It takes its popular name Ambrosia, from the unsurpassed fragrance of its foliage."

The plants grow from twelve to eighteen inches high but their top is generally too heavy for their stalk to support upright unless support is given. Plant seed in rich, well worked soil, covering lightly, as they are quite small. Keep free from weeds, and with an occasional stirring of the soil with a hoe the plants will do well. They can be transplanted with almost perfect safety. I have transplanted them when quite large, with success. From the planting of the first seed, which a friend gave me, a large number of plants voluntarily sprang into life from self sown seed, the following spring, and each succeeding spring since. Although quite hardy and easily grown, they have not, as yet, become as weeds. I transplant them to where wanted, but occasionally allow a few to remain in beds of other flowers to see the effect, and often a few plants can be seen nestling low among the delicate blossoms of the rose moss or amid a tangle of petunia branches, or peeping from a mass of phlox or other annuals. Perhaps some dislike the idea; they call it "jumbling together." Well I do not by any means advocate the slip-shod way of planting and tending our beautiful plants, but then why plant the same kind in the same place in the same way year after year? Can time make no improvement? Just reflect a little on arrangement.

Walker, Mo.

Castile soap is supposed to be made of olive oil, hence its presumed purity. Some Castile soap is made of olive oil and some is not. Some Castile soap is good and some is bad. In purchasing you can not tell which kind you are getting.

In buying Ivory Soap you are always getting a vegetable oil soap of known purity. It is also more attractive in form, lathers more freely and is therefore more convenient to use.

Correspondence.

John H. Schultz, Box 95, Ricketts, Pa., writes: I would like, through the P. F., to inquire for my lost brother, Henry Schultz. When last heard of he was in Jersey City. He has three brothers, William, Frederick and John, and a sister, Mary, in this country, and a brother, Charles, in Germany. He was born in Germany, and his mother died there; his father, Charles Schultz, died in this country. He had three children when last heard of. His wife's name was Louisa Hinameyer. She has one sister, Amelia, in this country. When his father came to this country he moved to New Era, Pa. If anyone knows of his whereabouts I would be pleased to receive information.

Youth's Parliament.

Nellie Gladys Curler, Mosinee, Wis., writes: Dear Mrs. Melville: This is my first letter for the P. F. I was ten years old May 19th. Mamma likes the P. F. the best of any paper on earth. I have a little garden of my own with a few flowers in it. I have two brothers, one older and one younger than myself. Papa has a large farm and a nice house. We live four miles from town. I go to school in the district school. There are 13 scholars. I am in the Fourth Reader, D geography, C spelling. It is three-quarters of a mile to our school.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 593, Oct. 10.—*Have You Tried Any of the New Irish Potatoes Which Have Been Introduced? If so Give Your Experience with Them as to Yield, Earliness and Quality.*

Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 588—Have You Had Any Experience with Bromus Inermis or Smooth Brome Grass, with the Hairy Vetch or Crimson Clover. Let us Hear of Either or all of Them.

C. S. Looney, Cowan, Tenn.—Having seen so much written about the hairy vetch, I concluded to try it, and so in the fall of 1900 I bought a small parcel of seed. I had a place in my garden where I had dug Irish potatoes and some other earlier garden crops, among them the garden or English pea. I think I sowed it the last of September or first of October; I recollect it was later than was recommended. It came up very thinly and grew some all winter and very early in the spring it was fine to look at, so nice and thrifty when almost nothing else was showing green. Wanting to see what growth it would make I pulled out some weeds that had come up in it and let it stand and mature. At first it was so thin on the ground and was so flat I thought the weeds might take it, but as spring came it began to throw up tender vines and I never saw anything that grew any faster. It wasn't long before all weed or grass growth was smothered. So it kept growing and blooming until about the last of June or first of July, when it was about dead. It was literally covered with little pea pods full of the seeds or peas. It would stand about knee high, then a shower would cause it to flatten down when a top growth would grow up again and fall down until it matured, when all the bottom was smothered and rotten; it was such a dense growth it simply smothered the greater part but the top growth. The seeds popped out and came up the next fall, but we worked the land in corn the next season (which was 1902), but last fall they came thick again and this season made a large growth. It even made a big growth out under some peach trees and around fence where shaded and the land hadn't been plowed for years; but it seemed to thrive as well as anywhere, covering up the weed growth. I had turnips sown among it and as they were winter turnips we left them to seed when done cutting salad. The vetch covered them and by the middle of April was 4 or 5 feet high, but when it became heavy enough the whole mass went down flat, the same way as the year before. When it matured the larger part was dead and rotten. Stock seem to love it as well as clover, and it would make an immense amount of fine hay and come off in time to put in another crop of something on same land, here, if it could only be kept up until it was in sufficient stage of growth to mow; but it falls flat before the bloom (at least this was the way it did for me on land that would produce about 40 bushels of corn per acre) begins to appear, and I don't see how it could be saved. I saw a field on Cumberland Mountain, where land is of a sandy, barren nature, sown among wheat; the wheat was about waist high and the vetch was right at the top and had begun to bloom; the wheat was heading. The person was going to cut for hay, but I don't know how they succeeded with it. If it had been on as good land as mine, before the pods began to mature, the whole mass would have been flat on the ground. I see some of the editors say that the great drawback to its culture is the price of seed, and they say sow one bushel per acre. I don't think there is any use of one not sowing it from this account, for I believe this amount is a waste of seed for I don't think part of mine had a bunch every 12 inches. I know if anyone would plant a seed every foot or two and then let that crop seed he would have his land seeded the next fall with all he would want without paying about $9 per bushel for one acre. But if a man wants to raise wheat or oats and is not very careful to cut every stalk before the peas pop open (they pop open as do butter beans, and throw the seeds all around the fence and everywhere) he would have his field soon ruined, as the vetch would pull down his grain before it got ripe. I am satisfied it is not the thing on any land on which any winter crop is grown, except it be a hay crop, and that might do if the other crop was such as could not be smothered by the vetch. Have not had any experience with the other plants named in the topic, except some crimson clover seed. Sowed it and not one seed came up, as was the case of others who bought same seed. They were said to be old seeds, and it is said that old crimson clover seed will not grow.

Godfrey Winkler, Southwest City, Mo.—In the first place I will say that I am located in a very unfavorable locality for most forage crops. Our uplands here consist mainly of a white clay post oak land. In its natural state it runs together after each rain and is easily affected by drought. In the spring of 1902 I procured a small quantity of bromus inermis and sowed it. It came up well and promised a good stand of grass, but in the next fall I could not find one plant; it had all disappeared during the drought. With sand vetch my experience has been different. I have sowed it three seasons; the first season I followed the advice of the seedsman I bought it of and sowed it in the spring, with not much of a success. This last summer I had a piece of vetch sowed last fall which was the wonder of the community, and the roots were completely covered with nodules. With crimson clover I have made several trials but with poor success. Perhaps the soil is not infested with the microbe necessary for its successful growth.

Enos C. Pittman, Poindexter, Ark.—While all, or nearly all, Experiment Stations have given bromus inermis a favorable recommendation, yet as a hay crop I have not found it satisfactory. It grows better when the weather is cool, and our long, hot summers may be accountable for its failure as a successful, paying hay crop. It seems to do best on a dry, loose soil, and our cattle graze it with a relish, and I have found it valuable as a pasture for winter grazing; but its place can better be filled with other grasses of a less doubtful character.

Jacob B. Brubaker, Mount Joy, Pa.—I have had experience with none but crimson clover. I sow it in corn after last cultivation, sowing at the rate of one bushel to five acres. At $3.50 per bushel it is a very cheap fertilizer. This year's seeding was up in four days' time, and is a very nice stand. It does not make much of a growth until corn is cut, but from that time on until winter sets in it grows nicely, giving the corn land a nice protection for winter. But spring is the time it makes its wonderful growth. I usually pasture it off before plowing down for spring crop. Mr. Editor, you forgot to insert cow peas in your topic. I do the same with them; sow them in corn at last cultivation and get a remarkable growth until winter sets in. In short, to sum up the result of crimson clover, I farm my land in a rotation of four fields, get a stand of clover in field every two years, have a protection for bare land during winter and a fair pasture in spring. But the greatest gain of all is the nitrogen which this clover takes out of the air and puts into the soil. It does that more than red clover for it has more and longer roots, and it is also a very beautiful sight to behold a field of crimson clover in full bloom.

Anell Lowry, Mosgrove, Pa.—I have had a four years' experience in growing crimson clover as a cover crop and for soiling, and can say that I have had splendid success, never failing to get a good stand sown at last working of corn and seed cultivated in, letting cultivator run shallow, so as not to cover seed too deeply. We always sow in July. Crimson clover has always stood winter as good as the red clover for us, here in Northwestern Pennsylvania. Its great root growth commends it most favorably as a nitrogen gatherer. Its greatest use here, however, is for winter mulching and green manuring; and in this respect it certainly appeals strongly to all progressive farmers as an economical fertilizer. Have had no experience with the others.

SUMMARY.

Mr. Looney's experience with hairy vetch is very interesting. We are fast coming to the conclusion that it is one of the best, if not the very best, of winter growing annual legumes. Like Mr. Looney, we have found that the advice in the seed catalogues, to sow a bushel of seed per acre, is entirely needless. From our own experience with this plant we find that twenty pounds of seed properly distributed is ample for an acre. While the crop will give us an ample yield from late sowing, if we want a good winter growth we must sow early. The vetch, as Mr. Looney found, is inclined to sprawl flat on the ground, and it is essential that some cereal crop be sown with it to sustain it if hay is the object. Soil on which it has not been grown should be inoculated by scattering over it some soil from an old garden where English peas have been grown. Sown early in September it will make a growth that will give some winter pasturage. If sown with wheat the risk of such early sowing is that the fly may destroy the wheat. Hence it may be better in the South to use winter oats and in the North rye. Last fall our vetch was sown with wheat late in fall. It made little show in winter, but the spring growth atoned for the delay, and the crop of vetch and wheat hay was very fine. On land where small grains are to be grown it should not be allowed to mature seed, for it will bother the farmer in his wheat crop, for the vetch is the tares of the Bible. But cut in bloom there will be no trouble. Mixed with wheat, oats or rye the crop is easily mown and the hay is easily cured. We cut this summer a crop of nearly two tons per acre of wheat and vetch and at once sowed the land in cow peas and expect two tons more of hay from these, and as soon as the peas are off the land will be prepared and sown to alfalfa for a permanent meadow. Grown solely for a winter pasture we would sow the vetch alone, let it mature in spring and follow with peas for hay and then let the vetch come again. Then you can cultivate a hoed crop on the land without difficulty and have vetch every winter. But keep it off the land where you want to grow small grains. Bromus inermis we think only adapted to pasture in the semi-arid region, and do not believe it will ever have value as a meadow grass in the East. It belongs to the same genus as the bromus which is called "cheat," and which some people imagine wheat and oats to change into. Crimson clover is rapidly becoming a standard legume crop from New York southward. On land where red clover has been grown it usually does well, but when no clover has been grown it needs to have soil inoculated, and if the land is not strong it should have a good dressing of acid phosphate and potash. Sown from midsummer in the Middle States, to October in the South. It needs some shade in its early growth. In the Middle States buckwheat has been found a good crop to seed with, and in the South it has been grown with success by sowing on wheat stubble without any preparation. We have sown it among thin grass in the fall and had a good stand and improved the grass. As a winter cover, sown on pea stubble, we have found it valuable, and will sow some in this way in September this year. The importance of having some green growth on the land in winter cannot be overestimated, especially in the South where there is more rain than freezing in winter, and a legume winter cover is of far more value than a nurse green cover like rye.

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BY PRACTICAL FARMER SUBS.

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Keeping a Diary of Farm Work.—A record is something the business farmer has. The plan below is simple. Any rainy day a person can do the ruling in a blank book that will do for a year. After that it is the work of scarcely a moment to put time down on work done in proper column. After the month is closed, under the subject "Remarks," one may write the condition of crops, or anything that will be valuable to remember. You will find after keeping a record for a few years how interesting and valuable it is towards pushing your farming to success.

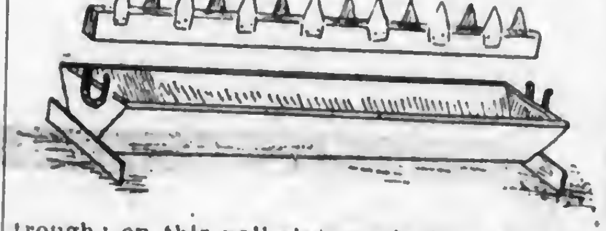
FARM RECORD OR DIARY FOR APRIL 1903.

Day of the month		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total No. days
The work	Kind and where done																																
Plowed	N. W. Field 2-27		¾	1		Sunday	½	1	1		1	1	Sunday	1		1	½			Sunday							Sunday	1					9¾
Planted or sowed	Potatoes in garden 14														½																		½
Fixed fence										1								1	1		½												3½
Hauled hay		½																					½										1
Odd jobs	Ground corn 1-4 H. C. 16	½	¼		1												½					1							1	1			5¼
Cultivated																																	
Hauled manure																							½	1	1	1							3½
Hauled or cut wood							½								½																1		2
Went to town																					½												½
Kind of weather we had		F	Cy	Cy	R	F	F	F	F	F	F	F	F	Cy	pcy	Cy	Cy	F	F	F	F	R	F	Cy	F	F	F	Cy	R	R	Cy		17F 8Cy 1pcy 4R

Gwenndale, Ind. Ter. J. E. WOLFE, JR.

Poultry Trough.—Clean food and drink can easily be provided by having feed troughs so arranged that dirt cannot get into them. The kind we use is made as follows: Take two boards 5 and 6 inches wide and 12 feet long. Nail together V-shaped; nail 5-inch one against 6-inch; this will make both sides one height, or even on the top. Cut in two in the centre, nail on ends and you have two troughs each 6 feet long, that are much handier than one 12 feet long. In each end have a cup one inch deep; have a strip one inch thick of 2 inches broad and as long as trough; on this nail slats made from shingles or some light wood; have them pointed so that it is impossible for the poultry to set a foot on top of them. If for any reason you want to, you can lift this out. By using this you can have food or water strictly clean at all times. THOMAS PATTON.

Mosgrove, Pa.



Short Work in Chicken Raising.—I always set three hens at once. When they hatch, give the chicks to two hens, thus giving the third hen liberty again. The hens with chicks are put each in a separate coop. I feed six times per day for the first two days, after they are 36 hours old. On the afternoon of the fourth day let them out, and from that on they have the run of the farm. Feed three times daily. They will soon learn to come to their coop at noon for feed. When about eight weeks old, or as soon as the hen acts as if she intends weaning them, I put a partition of chicken netting across my chicken house, which is 8x16 feet, which gives me a space 8x8 feet for young chicks. Shut up the coops at night. The hens will easily take their broods in the chicken house, with a little assistance from me for one or two nights. The house has two doors and a double window, is cleaned often and well dusted with wood ashes and kerosene put where the roosts fasten. I put roosts in for chicks about 6 inches high. They soon learn to go on them, thus I never lose any very large chicks by night marauders, and have my individual coops for the next lot of about 100. By the time my second lot is big enough to go into the chicken house I have sold my first lot. Thus I can raise about 300 every summer, and with very little trouble, have my time for other farm work and reading the P. F. MELISSA MARMON.

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Brandon, Miss.

Grit and Bone Crusher.—After thinking for some time how to manage the grit and bone question for chickens without expense (being compelled to economize), this is what I did: I got a good sized flat stone, placed it on the ground, the smoothest side up, then set on this a bottomless jar that would once hold three or four gallons; then inside this jar on the flat stone I put broken crocks, old plates, etc., then with an iron shaft weighing 6 to 8 pounds, which I had, I can make crockery or bones fine enough for use. If one has no bar or shaft heavy enough an ax or sledge hammer will do and a headless keg or small barrel will do instead of a jar. I think this works better than a mortar. E. G. RICHMOND.

R 3, Angola, Ind.

Cold Supper for Short Cut. — During the heated term we find it saves labor and heating the house, which is quite an item, to have cold supper instead of the hot evening meals we used to consider necessary. We prepare enough for dinner so there will be sure to be enough left for supper. We boil or roast meat or chicken; of course fried meats would not be good cold. Cabbage, corn and beans, as well as other vegetables, are good cold. We drink lemonade, cold water or milk and sleep better than when we drank hot coffee or tea for supper. When the farmer's wife has to feed calves, chicks, orphan pigs and lambs, care for milk and often do the milking, she has plenty to do of an evening without cooking a warm supper. MRS. FANNIE M. WOOD.

Falmouth, Ind.

Easy Way to Wash.—Dissolve one-half cake of soap in a little hot water, and add one-half cup of gasoline. Pour this in about half a tub hot water, then put the dry clothes right in. You can wait a few minutes, or go right to washing, as you please, and it is wonderful how quickly the clothes will be clean. Those that are not so badly soiled need almost no rubbing at all. This does not fade things like the washing fluids, and one good thing about it is, that it does away with soaking the clothes, which is surely something to get out of doing. I have tried many ways but this is far the best of them all. MRS. I. B. RICHARDS.

Prairie Grove, Ark.

Keeping Flour Handy.—I notice that many housekeepers when they need a spoonful of flour for making gravy, dredging steak, or for other purposes, go to the sack or flour box for the same. When baking I found it far more convenient to have several baking powder cans filled with flour set around where they would be handy. This saved steps and flour was not spilled on floor. JACOB M. KROUSE.

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

A Good Foot Bridge.—Perhaps there are a good many farmers in the same situation that we were in, in that they need a good way to get across the creek or river, perhaps to a piece of land or the postoffice, etc., and I will tell them how we built a foot bridge the past spring that just fills the bill. We had two trees on one side of the river and one on the other side. Two are better than one. The first thing we did was to anchor the trees well with two No. 6 wires twisted together and fastened around the trees near the top. We then dug a hole at the proper distance from the tree, fastened the other end of the wire around a large stone and dropped the stone into the hole, covering it up. Care must be taken to have the wire tight when the stone goes into the hole. We put our bridge up out of the reach of high water, it being 11½ feet above the water. Then spiked good strong pieces to the trees for the wires to go through. We suspended the bridge with six No. 9 wires placed 5 inches apart. To tighten the wire, we put it through the one piece, then through a good strong fence ratchet. Give the ratchet a few turns, enough to hold it, then take it across through the other piece, draw it as tight as we can and fasten well, then draw it up with the ratchet, but not too tight. For the floor we use 2x4s three feet long. These we lay across the wires and staple the wires fast on the under side. Place the 2x4s five or six feet apart, according to the length of the boards you desire to use. These floor boards should be 12 inches wide and 1 inch thick. We then placed one wire on each side for a hand railing, placing it about 34 inches above the bridge floor, passing it through pieces of board and nailing these to the 2x4s on which the floor rests. To take the sag out of the middle of the bridge take a 2x4 five feet long, put it under centre of bridge. Now 5 feet above the bottom of the bridge we fasten wires to the anchor trees, sagging them down and passing them under the 2x4, one on either side. When they are tightened up with ratchets we have a bridge that anyone can walk over with perfect safety. Ours is a 64-foot span and we use a ladder to get up to it. THEO. C. VLIET.

Whitehouse, N. J.

Keeping Old Sheep.—We have a flock of 36 old sheep, which we have had for three or four years. And these sheep were not extra good when we got them. Last year three of them died of old age, and this year two more have gone the same way. We lost about one-third of our lambs this year and as we think, it was because we neglected to sell off the old ewes. We intend to get rid of them this summer for almost any price that we can get for them. In view of our experience and observation we would not advise anyone to keep a flock of sheep more than two years. ELLSWORTH H. MISH.

Inwood, W. Va.

Stretches in Sheep. — When I began caring for a small flock of sheep I was told that along in January each year I must expect more or less trouble from the disease called "stretches." I was also taught that there were various remedies for the disease. Sometimes the sheep got better and sometimes it died. I have since learned that prevention is better and easier than cure. Since I have followed better methods I have had no trouble from the disease. Under the old method the sheep were sometimes fed nothing but dry fodder during the early part of the winter; no grain and no succulent feed until along about the time for them to drop their lambs, and we considered timothy hay very good fodder for them. Have now learned that almost any other fodder, even bright corn stover, is better for sheep than timothy hay. Also that when the supply of roots, as turnips, mangels, etc., is limited, it is best to feed a few every day and supplement them with a little wheat bran, which is better if made into a mash. Last winter I secured good results from adding a little cottonseed meal to the bran. When fed in this way, with comfortable quarters and salt always before them, there has been no trouble from stretches. And there has been less trouble with sheep not having sufficient milk for their lambs. S. S. CHANDLER.

Hardwick, Vt.

Work as Well as Wish.—It is quite a mistake, I think, for farmers to wish for what they haven't got. A wish is one good breath thrown away unless we bend our own energies in the direction of that we wish for. We go out among our farmer brethren and come home with forty-nine wishes ready to develop themselves. We look with admiration upon his live stock, such fine thoroughbred cattle, hogs, sheep and poultry. Oh, my, how we wish we had such. And yet we keep our little scrub stock and do not try to get any better. We look with admiration upon his buildings; such as large, handy barn and granary and sheds, and almost the nicest house you ever saw, all painted and flowered, and with everything so clean and handy that his wife can get his meals and care for the many little things about the house with all ease, and does so as if she enjoyed it. Then we come home and look at our own inferior buildings with hatred, with envy. We wish we had a floor in our barn and a fine granary and our house painted; with a sink in the kitchen and a "range" and a cupboard and fine dishes; a well at the front door instead of the old spring 300 feet below the house. We wish we had everything handy, but don't try a little bit to have it so. We look with admiration upon our neighbor's cultivated fields and wish ours could be kept clean as easy (we almost think our neighbor's fields keep themselves clean), but we don't even try to keep ours so. We let briars occupy the fence rows and weeds and broom sedge the cultivated fields. We look, too, as we go along, at the fine stand of clover which our neighbor has had and wish we could get such a stand, but we tell him our land is clover sick and will not "take," when the truth is, we very seldom sow the seed. We attend the Farmers' Institute and listen attentively to a farmer make a speech telling of his successful life as a farmer, and we wish we had a talent sufficient to enable us to deliver such an address; but we would rather envy others than make a speech ourselves. And when the president asks us to make a few remarks upon any farm topics with which we are familiar, we say, "No, I can't." Then we "go away back and sit down." We are making a great mistake in these ways, for instead of cultivating our own talent and business ability, we are envying others because they are successful, when we ourselves could be just as successful as they if we would. H. RAY MERCER.

Upton, W. Va.

Easy Way to Wash.—I have used Fels Naptha soap for washing for nearly two years and find it a great saver of time and labor. No one likes to boil clothes when they can do the washing just as well as without, and with this soap we do not have to boil the clothes. By this method I can do a good sized washing in two hours and not work too hard either. Washing is hard work at best and I believe in taking every possible advantage of it. This method is fine for colored clothes in that it does not fade them like other soaps. I think the clothes will last much longer when washed in this way than when boiled every week.

Ft. Pierce, Fla. MRS. A. J. MCDONALD.

Apples for Spring.—Reading the P. F. the last of May, I see but little reported about apples kept over. We cannot have a better fruit for this season of the year than the well kept winter apple, and yet there are comparatively few kept over. Few of the luxuries that are on the market in early spring are equal to the winter apple. What do the people of the main winter apple belts do with their best keeping winter apples? Why should they be pushed onto the market in the early fall and even during the winter? Late in the spring is the time that a fair share is needed. Why not keep a fair supply for May and June? W. F. GRABS.

King, N. C.

Peas, Corn and Cotton.—Early in February we planted English peas in 10-inch double rows with 30-inch space between. The first of April corn was planted in the wide spaces, and the last of April cotton was planted in hills in the narrow spaces between the peas in double row. We matured a good crop of peas and pulled vines for horses the last of May, and later cut corn for feed. Where the corn grew we planted dwarf lima beans and cow peas and all matured. The yield of cotton was good, several stalks having more than 40 bolls and one had 80 bolls. After frost we planted strawberries and onions on the land. Four crops matured and six growing on the land in one year.

Talucah, Ala. C. E. HODGEBOOM.

Mistake with Peach Trees.—I had as fine an orchard as one would wish to see; kept it worked so that scarcely a weed grew. The trees grew very rapidly, putting out branches five and six feet long in one season. But alas, I killed them with kindness, for they grew so rapidly that they were too tender to withstand the cold weather of the winter a few years ago and this spring I finished pulling them out and resetting. Had I worked them less and provided a cover crop in the fall I think they would have lived to bear a crop or crops of fruit; at least other orchards in this vicinity that were worked less have done so, although the trees were injured some by the cold weather of winter. Shall profit by experience in caring for the trees just set. W. F. BOLES.

Ada, Mich.

Sticky Fly Paper. — Mix equal parts rosin and castor oil, melted, with a dash of sugar to tempt the flies. Or, take half pound of glue and one cup molasses, mixing well together. Spread either of the above on thick paper, leaving a margin for handling. Another way is to heat together three and a half ounces raw linseed oil, one pound rosin and three and a half ounces of molasses. Spread on paper while warm. To fasten a glass lamp securely in its metal socket, mix plaster of Paris to a paste with cold water; put a layer in the socket and press the lamp firmly to place. The plaster will harden in a few minutes and be ready for use.

R 1, Athens, O. ADA H. PARKER.

Cooking Breakfast.—During this season it is very important that farmers have their breakfast early. Our lady friends should not keep them waiting, but help them all they can. Wash dishes, grind coffee, cut meat and prepare dough for bread the night before. You can make mush or fry eggs in a little while, and by having these other things already done you can get breakfast in less than half the time that it usually takes. Try this and be convinced.

Shopton, N. C. ANNIE GARRISON.

Mistake with Fine Potatoes.—Some persons write of their success; I will tell of my mistake. I sent to Wm. Henry Maule for some fine potatoes to plant, and they were up and looking fine. I thought to improve them I would give them a dose of muriate of potash, which I did. I sprinkled it on dry just before the last working, and enough of the fine portion adhered to burn them from the dew the next night. I think if it had rained the rain would have washed it off and it would have been all right. Leaves were dry when it was put on; now they are one-third dead. J. P. TREECE.

Elizabeth, Ind.

Use for Dry Bread.—Stale bread and biscuits are often thrown away when they might be made almost as good as when fresh baked. If the loaf becomes dry, sprinkle with cold water and place in the oven; leave until warmed through, turning over occasionally so it will not become too brown. This will cut and taste like fresh bread. Rolls may be warmed in the same way; also soda biscuits if not too dry or too hard baked. If steaming is preferred, always use a cloth in the bottom of the steamer. Do not pile the slices up, but scatter them loosely in the steamer and cover with the cloth. Steam until well moistened, but not soggy.

New Berlin, Ill. MRS. T. A. SHUFF.

Garden Hints. — Fence the garden in with the yard and keep the chickens out of both. A well kept garden is an ornament to a back yard. Keep all the ground occupied by some growing crop. As the last crop is removed plant cow peas; they keep down weeds and do the ground good. Try using the rake to stir the surface soil; it must be used before the weeds appear. As the season advances plant seeds deeper and firm the ground more. Teach the children to work in the garden, but do not make them stay there.

Ridenhower, Ill. E. E. HUNT.

Wheat on Pea Stubble.—I cannot refrain from writing of my little experience this year with wheat on pea stubble. One-half of a 6-acre field was in peas and the other half in millet. In the fall the entire field was sowed to wheat, and now at harvest time the wheat on the pea stubble is 10 inches higher and 50 per cent. better headed and filled than that which grew on the millet ground. The difference was very noticeable even at the very first row of peas. I may say that this is no exaggerated theory, but a matter of fact plain to be seen by any person who is at all observant.

Chambersburg, Ind. WM. T. WRIGHT.

Poached Eggs.—Many housewives find it difficult to poach eggs nicely. Experience has taught me that eggs two days old are best adapted to the purpose. If too fresh the whites will not thicken well; if too old the yolks break easily. Break each egg separately into a saucer or cup and carefully slide into the vessel of gently boiling water, previously salted to taste. Be careful to let the egg stand until the white is set. Dip up a spoonful of boiling water for each egg and pour it over the top to secure that delicate transparent covering through which the golden yellow of the yolk shall peep in dainty perfection as through a mist of white. Cook until the white is simply firm. Remove from the vessel with a pancake turner if possible, and place on a warm platter. Season with a bit of butter dropped on top of each egg, and pepper if desired. Thus you will have a pretty and appetizing dish.

Milton, Ind. FLORENCE A. NEWMAN.

LOVE

Often leads to poverty. No real woman ever sold her heart for the luxuries of life. But many a woman who has gladly faced poverty for the man she loved, may well doubt her wisdom when pain becomes the mate of poverty. If she were rich, she thinks, she could find a way of cure.

Dr. Pierce's Favorite Prescription is within the reach of every one. It lifts the burden of pain which weighs down those who suffer from womanly diseases. It establishes regularity, dries weakening drains, heals inflammation and ulceration and cures female weakness.

"You have my heartfelt thanks for your kind advice to me," writes Mrs. Geo. Fletcher, of 106 Victoria Avenue, Galt, Ontario. "Was troubled with catarrh of uterus for over a year. The doctors said I would have to go through an operation, but I commenced to use Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery,' also his 'Lotion Tablets' and 'Antiseptic and Healing Suppositories.' Now I am completely cured, after using six bottles of Dr. Pierce's medicines. I am glad to say his medicine has made me a new woman."

Weak and sick women, especially those suffering from diseases of long standing, are invited to consult Dr. Pierce by letter, *free*. All correspondence is held as strictly private and sacredly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y.

Dr. Pierce's Pleasant Pellets are easy and pleasant to take. A most effective laxative.

"How to Make Dollars out of Wind" A free book. Send for one. M. CAMPBELL FANNING MILL CO., Ltd., 111 Wesson Ave., Detroit, Mich.

SEPARATORS AND POWERS for 1, 2 and 3 horses; level or even tread. Sweep Powers, 2 to 8 horse; Hand and Power Corn Shellers, Feed Cutters; Feed Mills; Saws; Steel and Wood Rollers; Engines, 3 to 25 H. P., mounted or stationary. Catalogue free

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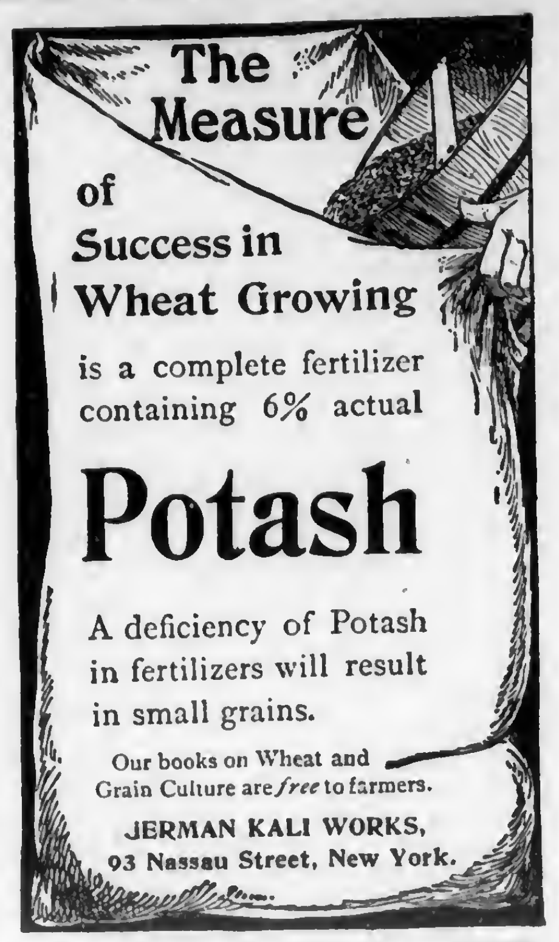

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A deficiency of Potash in fertilizers will result in small grains.

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A Perfect Woven Fence No short wire ends to injury of stock. Heights 18 — 24 and up to 54 inches. Free catalog. CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

BROWN 16 to 35 Cents Per Rod. Heaviest, strongest, most durable fence made. All wires extra large. We sell to farmers at wholesale prices. Coiled Spring, Barb and Soft Galvanized Wire. WRITE FOR CATALOGUE The Brown Fence & Wire Co. Cleveland, O.

For Unruly Stock no fence equals The PAGE. It's so much stronger. PAGE WOVEN WIRE FENCE CO., Adrian, Mich. OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

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Appleton-Goodhue Wind Mill. A full wheel with double arms of heavy channel steel, engine way guide, self-oiling boxes, covered gears, a perfect governor, a noiseless brake, etc. Prices right.

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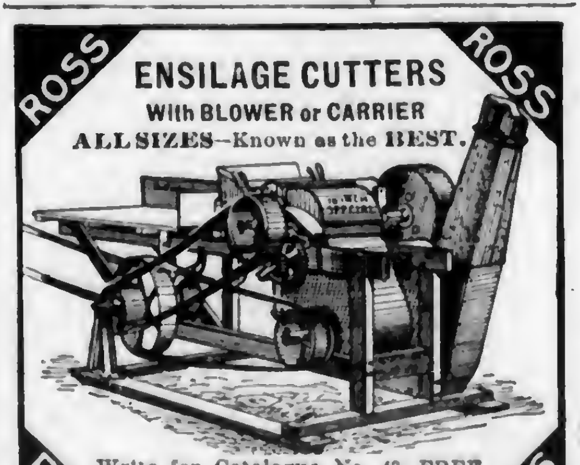
Towers guaranteed against cyclones and tornadoes. Illustrated Catalogue describing them and our famous grinders, cutters, shellers, wood saws, huskers, horse powers, etc., free; APPLETON MFG. CO., 25 Fargo St., Batavia, Ills., U.S.A.

EACH LITTLE WIND that blows is turned into value for the man who pumps or generates power for grinding, sawing, etc., with the Freeman Steel Windmills.

Mills with genius to work and strength to stand. Full line high grades with special four post angle steel tower. Also Feed Cutters, Wood Saws, Corn Shellers, etc. Write for catalog 108 S. Freeman & Sons Mfg. Co., Racine, Wis.

ROSS ENSILAGE CUTTERS With BLOWER or CARRIER ALL SIZES—Known as the BEST.



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OUR PREMIUM DEPARTMENT.

We are selling the P. F. Sewing Machines right along. The family which has one of these machines makes no mistake. We make the broad assertion that they are the equal of any sewing machine sold. They do their work well; they wear well; they don't get out of repair; and they give satisfaction. You can pay anywhere from $35 to $65 for other machines and then have nothing better than the P. F. High Arm Sewing Machine at $19.25 or the P. F. Drop Cabinet at $19.50, freight prepaid to any railroad station east of the Rocky Mountains.

Our friends will find the Farmers' Home Repairing Outfit described on this page a handy thing. Lots of work in the way of repairing tinware, harness, shoes, etc., can be done with it in half the time it would take to go to the tinsmith, harnessmaker or shoe shop. Many times these breaks come when you have not the time to send the broken article away; time is money just then, and a break that can be fixed up in a few minutes on the spot may be worth dollars.

There are two things on this page, besides the sewing machines, that will interest the housewives. The "Household Guide" is something more than a cook book, although that part of it is one of the most complete and practical cook books published. There are numerous directions for the performance of household work, such as sewing, washing, ironing, house cleaning, etc., which will commend themselves to the housewife. The treatment and prevention of diseases, sanitary rules, and the chapter on flower culture, make it an all-around home book. Prescott's Elevating Towel Rack is a kitchen adjunct which will appeal to every housewife.

Boys, don't forget that we are giving a first-class rifle as a premium for a club of 15 yearly subscriptions to the P. F. at 50 cents each. The rifle is described below and tells the story. Send for sample copies and get one of those rifles.

The farmer will find one of our guaranteed knives a handy thing every day in the week. It is made for hard work and will stand it. We will send it and the P. F. to January 1, 1905 for only $1.25.

September commences the fall season and we are making ready for the fall subscription business. We are looking to our friends for material help in enlarging the subscription list of the P. F. and thereby increasing its usefulness. Look through the last few numbers and see what attractive premiums we are offering for P. F. clubs. Also bear in mind that from now on we will send the P. F. for the remainder of the year free to all new yearly subscribers. This will help club raisers materially in asking their friends and neighbors to join the P. F. family for 1904. You can assure them that for every cent paid for subscription they will receive a dollar in value during the next year.

Something for the Boys

We want the boys to go to work for the P. F. and here is their chance. We have selected one of the

Best Rifles

Made by one of the most reliable companies in the United States, as a premium. The barrel is standard length, case hardened frame, single trigger with oiled walnut stock and rubber butt plate; the whole weighing 3¾ lbs. It has an automatic kicking ejector, doing away with the operation of picking the empty shells from the chamber. The rifle can be "taken down," so as to be carried in a trunk, grip or small package. In a nutshell, just the thing for the boys. We will give one of

THESE RIFLES FREE

for a club of 15 yearly subscriptions to the P. F. at 50 cents each. The club raiser must pay freight.

Send for sample copies and start in at once, so as to get a rifle for the fall hunting.

Practical Farm Experience No. 1.

405 Pages. 237 Subjects Treated.

Compiled from the columns of The Practical Farmer and edited by Prof. W. F. Massey. Completely indexed.

A Complete Farmers' Institute in your own home, with discussions on every farming subject imaginable, from every section of the country. Men who have succeeded tell you how they succeeded, and the surest road to success is following in their steps.

Practical Farm Experience stands alone as the most unique and useful publication ever put in type, as there is nothing like it in agricultural literature.

As a Book of Reference it is invaluable to every farmer.

A Book on American Farming Written by American Farmers for American Farmers.

Its Contents are direct from the soil by soil tillers who till for profit as well as health and pleasure. Space will not permit us to give a detailed list of its contents, but it is sufficient to say that *nothing is omitted.*

Price, 50 cents, Postpaid.

The Practical Farmer's Household Guide

The only cook book, which, besides containing the simplest, best and most economical recipes for cooking, is also a complete instructor in every variety of housework. A family medical counselor and withal teaches all the essential points in window and outdoor flower culture.

The wide field covered by this book made necessary the following classifications:

Class 1.—Bread and yeast, cakes, pies, puddings and all other dishes in which cereal products formed the principal ingredient.

Class 2.—Meats, poultry, game, fish, oysters, soups, eggs, cheese and other animal foods.

Class 3.—Fruits and vegetables in any shape, and all preparations of fruit juices, and all dishes in which fruits, vegetables or fruit products form the most important element.

Class 4.—Short cuts and easy methods in sewing, washing and ironing, housecleaning and all other housekeepers duties in addition to cooking.

Class 5.—Home treatment and prevention of disease, general rules of hygiene and sanitation. Toilet preparations, etc.

Class 6. Flower culture.

Having been compiled as this book was, the material composing it having come exclusively from the pens of members of the great Practical Farmer Family, distributed throughout the whole Union, and being, as we are sure they are, the most intelligent clientele of any farm paper published, was sufficient guarantee to us from the start, that the material would be the *very best for the purpose*, and that the interest in it from the very beginning would be very great. We found it just as we expected. There was scarcely need for the prizes we offered to bring forth the greatest abundance of recipes of the highest class. Out of the large amount of matter sent us, we have been able to make a book that

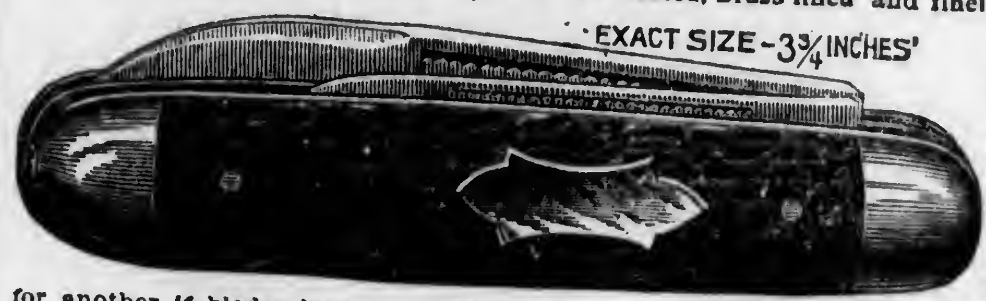
Every Farmer's Wife Ought to Have.

It Fills the Bill.

PRICE, 50 CENTS, POSTPAID.

A Guaranteed Knife

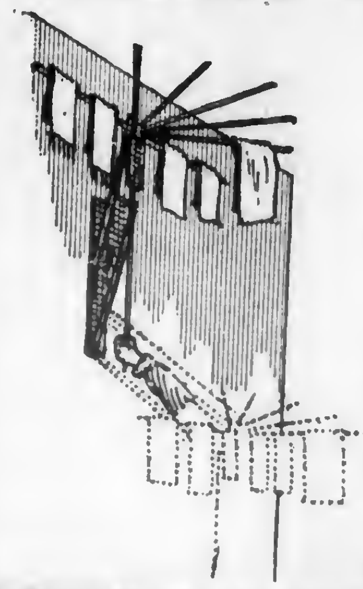
Razor Steel, Hand-Forged, Thoroughly Tested, Brass lined and finely finished.



We guarantee that the blades are not soft, and are free from defects. If the knife is defective we will exchange for another if blades have not been put on a grindstone. **We will send the P. F. to January 1, 1905 and this knife, postage paid, for only $1.25.**

Prescott's Elevating Towel Rack.

A Revolution in Wall Dryers.



Down within easy reach to put the towels on or off, (see dotted lines) then up it goes instantly, entirely out of the way.

Arms level at all times. It is usually put up over the sink or in the nursery, where the handle is convenient to pull it down when wanted.

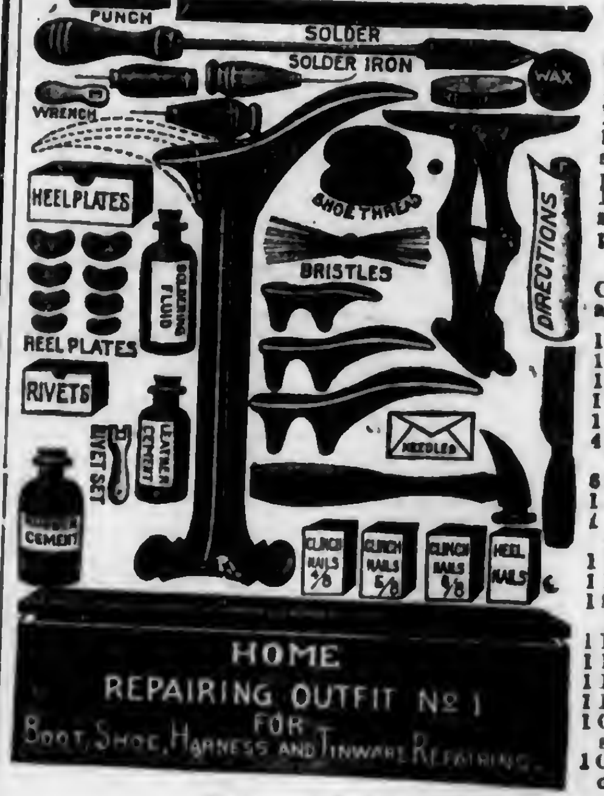
A spring serving as a stop both ways.

Buy one and please your family as well as yourself, for you will not strike the arms with your head as formerly.

ONLY $1.00, purchaser paying freight. We will send The Practical Farmer for one year and one of these Towel Racks for only $1.25. Towel Rack free for a club of six yearly subscriptions to the P. F. at 50 cents each.

FARMERS' HOME REPAIRING OUTFIT No. 1

This is a complete outfit of tools and material for mending boots, shoes, rubber, harness and tinware. Consists of 44 first-class tools and material as shown in the illustration herewith. All these tools are full size and practical in every respect.



Repair your own boots, shoes, tinware, harness, etc., and save worry, time and money. With this outfit you can catch many jobs at odd times from your neighbors and thus make your spare time profitable. Each case of outfits contains printed instructions for doing the work and will enable you to readily put on a half sole, repair shoes, harness, tinware, etc., without any previous knowledge of doing this kind of work whatever. It is just the thing needed in every farmers' home. Each set is securely packed in a neat wooden box. Weight, per set, 20 pounds.

This combination is three outfits in one. Cobbler mender, harness mender and tinware mender and contains as follows:

1 Ball Shoe Wax.
1 pkg. Clinch Nails, 4-8 in.
1 pkg. Clinch Nails, 5-8 in.
1 pkg. Clinch Nails, 6-8 in.
1 pkg. Heel Nails.
4 prs. Heel Plates, assorted sizes.
6 Harness Needles.
1 Harness and Saw Clamp.
1 Box Slotted Rivets, assorted sizes.
1 Rivet Set for Same.
1 Harness and Belt Punch.
1 Soldering Iron, Ready for use.
1 Handle for Same.
1 Bar Solder.
1 Box Resin.
1 Bottle Soldering Fluid.
1 Copy Directions for Half-soleing, etc.
1 Copy Directions for Soldering.
1 Iron Last for Men's Work (reversible).
1 Iron Last for Boys' Work (reversible).
1 Iron Last for Women's Work (reversible).
1 Iron Last for Children's Work (reversible.)
1 Iron Stand for Lasts.
1 Shoehammer.
1 Shoeknife.
1 Peg Awl Handle.
1 Peg Awl.
1 Wrench for Peg Awl Handle.
1 Sewing Awl Handle.
1 Sewing Awl.
1 Stabbing Awl Handle.
1 Stabbing Awl.
1 Bottle Rubber Cement.
1 Bottle Leather Cement.
1 Bunch Bristles.
1 Ball Shoe Thread.

Price, $2.00. Purchaser Paying Freight Charges.

The Practical Farmer one year and the above outfit, $2.50. The outfit free for 8 yearly subscriptions to The Practical Farmer, at 50 cents each.

$50.00 Sewing Machine for $19.25

Do you own one? If not, here is a bargain in sewing machines. None give more satisfaction than the "Practical Farmer."

P. F. HIGH ARM SEWING MACHINE.

High Arm, High Grade, Ball Bearing Noiseless, Self-Threading.

$19.25.

Freight prepaid east of Rocky Mountains.

Constructed of the best material in use. Every bearing being of steel or case-hardened.

No Vibration.—This machine does not vibrate. Its natural movement is nicely balanced, the motion is easy and quiet.

Lock-Stitch. — It is a lock-stitch shuttle machine.

Speedy, Light, Quiet.—It is as speedy, light and quiet running as any shuttle machine manufactured.

Double Feed.—Positive Four Motion.—The double feed possesses advantages over all others.

The Needle Bar.—A self-lubricating needle bar, which is always kept clean, well oiled and the oil cannot drop on the work and soil.

The Self-Threading Open-End Cylinder Shuttle is entirely new; is absolutely self-threading—not a hole to thread through.

The Loose Pulley for winding the bobbins without running the machine is constructed to admit of instantaneous stoppage and starting of the machine without stopping the treadle movement.

Attachments.—A complete set of latest style presser bar attachments goes with each machine.

A Written Warranty for Ten Years Goes With Each Machine.

P. F. Drop Cabinet Sewing Machine.

Each machine is guaranteed for 20 years; thoroughly inspected and sewed with before leaving the factory. Instruction book accompanying each machine explains everything.

Woodwork.—The woodwork is of the latest golden oak, highly polished. Drawers ornamented with carved woodwork.

The Arm and Bed Plate castings are of extra heavy weight, that either light or heavy fabrics may be used.

The Face Plate, hand wheel, shuttle carrier and stitch regulator are finely nickel plated and polished.

$19.50

Freight prepaid east of Rocky Mountains.

Stitch Regulator.—The stitch regulator is in front of the arm post, and automatic bobbin winder is so arranged that it can be turned down flat and even with the bed plate, allowing free access to the stitch regulator thumb screw.

Threading. — No holes for thread except the eye of the needle.

Presser Bar. — The latest style presser bar attachments, which will produce the finest of fancy sewing.

The Table.—The machine will prove a handsome ornament to any room. The table is decorated with a 20-inch tape measure in marquetry design.

THE FARMER CO., Market & 18th Streets, Philadelphia Pa.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Moore Co. Crops generally very poor. Cotton nice; not average more than half a crop. Late corn looking very well Sweet potatoes looking fine. Prices as follows: Corn, 80c.; wheat, 90c.; peas, $1 per bu.; butter, 20c. per lb.; eggs, 10c.; per doz.

J. M. SHIELDS.

Carthage, N. C., Aug. 24, 1903.

Located 4 miles south of Taylorville, the county seat of Christian Co. Land very fertile and selling from $75 to $100 per acre. Corn looks well but is late; good rains recently will make the corn. The only fear now is that frost will catch it on account of the corn being late; wheat one-half crop; oats one-half crop; timothy hay one-half crop; clover hay good. Prices: Wheat, 70c.; oats, 29c.; corn, 46c. per bu.; butter, 15c. per lb.; eggs, 13c. per doz.; chickens, spring, 10c.; old hens, 8c. per lb.; cows, $30 to $50; horses high; good hogs, 5c. per lb. Fruit scarce; no peaches and few apples; blackberries, raspberries and strawberries were good crop Gardens good. Weather very warm at present. Telephones and free rural mail delivery. Farm help very scarce and wages high. Success to P. F.

M. HARDIN.

R 1, Taylorville, Ill., Aug. 24, 1903.

We live in southwestern corner of Indiana, in Vanderburgh Co., 4 miles from Evansville, in a good agricultural country, with the best of markets at Evansville, which is booming at this time; they are getting a good many new factories of all kinds. Many people are flocking to the city to work in factories, which makes farm help very scarce. Dairying is a big thing here, too, there being sixty milk men supplying milk to Evansville. We have had an abundance of rain this summer, consequently very good crops, wheat being the poorest, about one-third; hay, all kinds, good and clear of weeds this year; corn never had a better prospect; even hill corn is fine this year. Prices: Wheat, 80c.; corn, 55c. per bu.; hay, $12 per ton; potatoes, 50c. per bu.; butter, 20 to 25c. per lb.; eggs, 15c. per doz. Farmers happy. Success to P. F.

EDW. UTTERAGE.

R 1, Evansville, Ind., Aug. 24, 1903.

North end of Somerset Co., Paint township, Pa. Cutting oats is the order of the day, about one-half cut; some few farmers have finished cutting and are hauling in; from fair to less than half a crop; winter wheat was a good crop; barley a fair crop; early sown rye better than for four years; buckwheat looks well, prospects good; early planted corn on high land will make a good crop; late planted and on low land poor, too wet to cultivate; early potatoes good, but started to rot; late planted all blighted, no good; one-third crop apples; no plums; few pears; no peaches; cabbage good, solid and fine; turnips good; lima beans fine; stock beans fine; mangels good; red beets good; parsnips good; clover fine set; timothy good; no alfalfa grown; hay was two-thirds crop. Meadow hay, $15 per ton; oats, 48c.; wheat, 80c.; rye, 70c.; buckwheat, 52c.; corn 75c.; potatoes, 45c.; turnips, 40c per bu.; butter, 20 to 25c. per lb.; eggs, 18 to 24c. per doz.; Beef, 10 to 16c. per lb

ANNIE E. OTT.

Scalp Level, Pa., Aug. 26, 1903.

Located 7 miles from Franklin, the county seat of Venango Co. Land is rolling and well adapted to grain and stock raising. Have rural free delivery and some good roads. Lots of rain the past few weeks, putting the farmers back in making hay; wheat all cut and a good crop; corn, oats and potatoes look fine; fruit is scarce and so is farm help; wages from $1 to $1.50 per day. Prices as follows: Horses, from $150 to $200; cows, $30 to $50 each; butter, 18c. per lb.; eggs, 20c. per doz.; wheat, 80c.; oats, 45c.; corn, 68c. per bu.; hay, $12 per ton and a good crop. Markets good for all kinds of produce. We appreciate the P. F. and think it an up-to-date paper in every respect.

JAMES McFETRIDGE.

R 1, Polk, Pa., Aug. 26, 1903.

Located in Choctaw Nation, Indian Territory, at Coalgate, a city which has grown from a town of 2,000, to a city with a population of 8,050 inside of three years. The lands belonging to the Indians of the Five Civilized Tribes are being allotted to the members of the tribes, each Choctaw and Chickasaw man, woman and child receiving 320 acres of the average allotable land of the Nation. In the other three nations they do not receive so much. They must have 160 acres set off as a homestead, which they cannot sell during their life, or for 21 years. They can sell one-fourth of the remainder one year after they receive their patent, one-fourth in three years and one-fourth in five years. There are some as fine farming lands in the Choctaw and Chickasaw Nations as there are anywhere. Fine crops of cotton, wheat, corn, potatoes, Irish and sweet, and all kinds of truck, vegetables and fruit are produced on them. In the Choctaw Nation there are some of the most extensive coal mines in the West, 5,000 miners being employed at Coalgate. These mining towns provide a home market where all kinds of produce, butter, eggs and poultry can be sold at good prices. The Indians sell their lands at very reasonable prices as soon as the time expires. The people here are very desirous of having wide-awake, progressive farmers to come in and locate and introduce improved live stock, modern methods of farming and assist in developing the resources of the country. I will be pleased to answer any questions from readers of the P. F. who write me and enclose stamped envelope.

J. M. CRAYTON.

Coalgate, I. T., Aug. 22, 1903.

We are having lots of rain. Corn is very good; cotton is good; fine prospects for a good cotton crop; sorghum crop is going to be short; range is better than it has been for many years, due to lots of rain. All stock looks well. Hay crop is about as usual; apples are a good crop and selling for 50 and 60c. per bu.; chickens, 15c.; geese, 30c. each; eggs, 10c. per doz.; butter, 15c. per lb.; milch cows, $20 to $30; horses, $50 to $100; mules, $75 to $150 each; land, from $5 to $100 per acre.

H. PRICE.

Hunt, Ark., Aug. 22, 1903.

Located in Sharp Co., Ark., 6 miles south of Hardy Station. Plenty of rain up until now. Wheat and oats one-half crop; corn and cotton look well; apples one-half crop; no peaches. Cattle in fine condition on the range. Lots of people settling here; land is cheap; I bought 80 acres yesterday at $2.50 per acre. Prices: Corn, 35c.; wheat, 70c. per bu.; cattle, 3c., gross; hogs, 5c per lb., gross.; eggs, 10c. per doz.; butter, 15c. per lb.; cows, $15 to $30; mules, $75 to $150 each.

S. B. SPURLOCK.

Kings Mill, Ark., Aug. 22, 1903.

Located 3 miles from West Plains, Mo., the county seat of Howell Co. This is a mixed farming and fruit section, although most of the fruit was a failure on account of freeze the first of May. Lots of rain this season. Spring late and cool Hay extra good; all that was stacked out badly damaged on account of so much rain; corn good; late corn is beginning to need rain; weather very warm but our nights are cool and pleasant. Present prices: Wheat, 65c.; corn, 50c.; oats, 35c.; apples, 50 to 75c. per bu.; hay, $7 to $8 per ton; horses, $50 to $125; milch cows, $25 to $40 per head; young cattle, 3c.; hogs, 4½c. and scarce; young chickens, 9c.; butter, 15 to 20c. per lb.; eggs, 8c. per doz.; land varies from $5 to $50 per acre, according to location, improvements and state of cultivation. The emigration is increasing here and those from New York and Pennsylvania and Eastern States make the best success, as this is a rough country, with fertile, broad valleys. Good schools and churches. Success to the P. F. and readers.

H. O. CALHOON.

West Plains, Mo., Aug. 24, 1903.

Located 60 miles north of Pittsburg, the largest city in Western Pennsylvania, in a rich farming and manufacturing district. We have had nice weather in this locality for the past six weeks. Harvest about all up and threshing begun. Farmers are very busy preparing to sow their wheat. A large acreage of wheat is being put in. Prices as follows: Wheat, 70 to 75c.; corn, 45 to 50c.; oats, 50c.; potatoes, 75c. per bu; eggs, 15c. per doz.; butter, 20c. per lb.; cattle high; sheep low; horse and mules very high.

JOHN W. MITCHELL.

Pulaski, Pa., Aug. 24, 1903.

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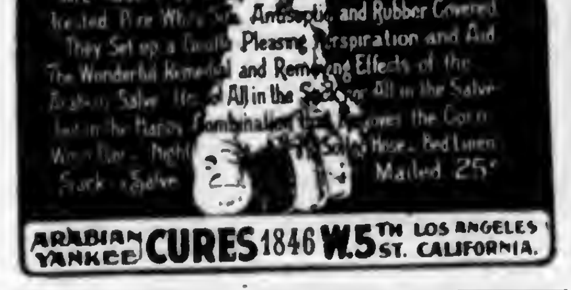

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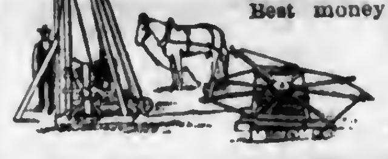

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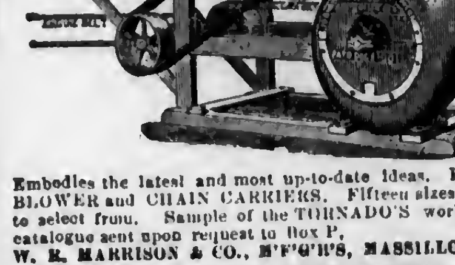

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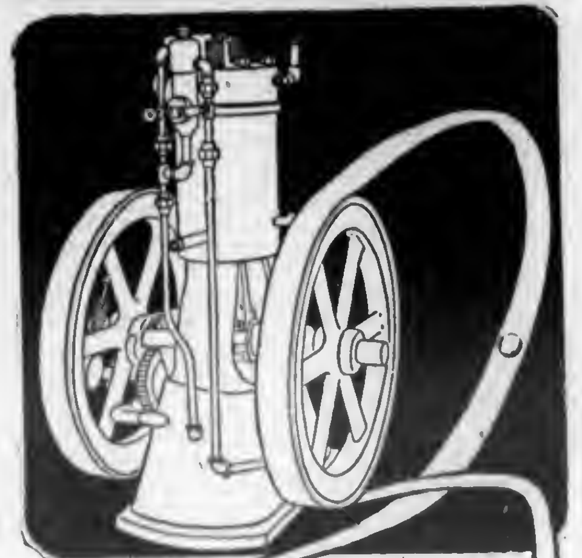

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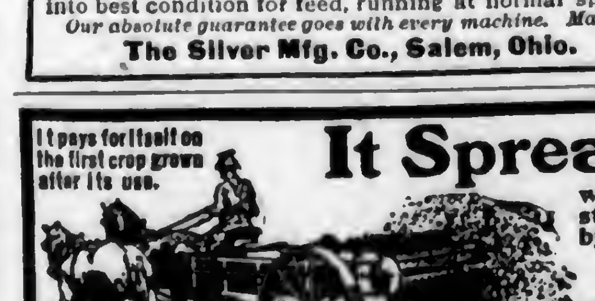

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THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Improving the Home—A Cold Room in the Cellar.

Originally the cellar under our house was constructed with a view to keeping seed potatoes, vegetables, fruit, etc., close to the freezing point during the winter. To do this we kept the windows open until the thermometer showed a temperature of about 34 degrees. A flue in the chimney by the side of the stove flue enabled us to draw out the warm air in the cellar frosty nights in the fall as soon as a fire was kept upstairs. Of course when the air in the cellar was drawn up chimney the cooler air from out of doors came in the open windows. In the morning we would close flue openings and windows, thus keeping in the cool air. But it is particularly of the winter arrangements that I want to write today. The cellar was kept cold, between freezing and 40 degrees, often for months about 34 degrees right along. The ceiling is plastered and floors above covered with building paper under the carpets. But even with this care the cold cellar required more heat above to keep the rooms warm. Lately we have made a change. A furnace has been put in and the heat that escapes from this in the cellar will be utilized to keep the floors of all rooms above somewhat warm. Yes, I remember that we have no cellar under kitchen and dining room, but two openings have been made in the cellar wall so the warm air can circulate under the floors of these two rooms also, which are up about two feet from the ground. A studied effort has been made to keep the cellar warm henceforth in winter, so far as may be, with heat that cannot be prevented from escaping from the furnace. Windows will be closed hereafter instead of being open. The temperature will probably stand at about 60 degrees near the ceiling, instead of 34 to 40. Potatoes, fruit, etc., would soon be ruined in a cellar as warm as this, of course, unless something more was done. So in the corner of cellar most remote from furnace, and where a cold floor would do the least harm in room above, we have built a special cold room. It is about 4x8 feet and 8 feet high. There is a door in the middle of the long side and a window opposite. One side, and end, are formed by the outside wall. These and the plastered ceiling we whitewashed. The other side and end we made by putting up a frame of 2x4 scantlings and ceiling it outside and in with matched flooring. Care was taken to have this tight, where it joined the walls, and everywhere. So there is an almost perfect dead-air space between the outside and inside ceiling. The warmth in the cellar will have no effect, practically, on the air in this room, and the window can be kept open when needed to lower the temperature to near the freezing point and the rest of the cellar not be affected. A thermometer will hang in the cold room to tell when the danger point is near. This room is on the east side of the house. There was a good reason for putting it there. With the sudden and great changes we often have here in the winter it is hardly safe to leave a west window open at night. No sudden cold snap will bring frost into this snug room in one night through an east window. In one end of the room we put shelves, the lowest about as high and wide as a table; the others about half as wide. Under the lower shelf and in the other end we can store all the fruit, potatoes, etc., we can use, and more, in our bushel boxes. These can be piled one above another as high as one's head, if desired. There is a cement floor in this room, as well as all over the cellar. Wife is delighted with this cozy, clean little room where butter, meat, cooked things, etc., can be kept in winter away from the dust. It certainly is a great improvement over the old way of keeping all the cellar cold and wasting heat above. We have got to hold our own against the coal monopolies by learning to save all the heat possible, consistent with good ventilation. I hope soon to deal the trusts a merited blow by showing consuming friends how they can save many millions of dollars' worth of heat from going to waste up chimney every winter. This cold room would also be helpful to those who now keep all the cellar warm, thus causing fruit to decay soon and potatoes to sprout and get poor. The total cost of room, lumber, window, carpenter work and all, was about $10. Oh, yes, and I must not forget that on the outside of window frame is nailed a galvanized wire screen, so mice and rats, as well as flies and cats can look in and see the nice things, but that is all. Almost mean, isn't it, to tantalize the poor things?

Mending a Crack in Cistern.—Some years ago the cement lining of our cistern cracked slightly up and down, so water would slowly leak out until it got to about 3 feet from the bottom. In clay soil water might have come in this same crack at times. We got a good mason to put a coat of cement mortar over the crack. This stopped the leak for a time, but later the crack appeared again through the patching. People told me it wasn't of any use to try to patch over a crack of this kind. With the wet weather of the last two or three years we have had water enough anyway, so no attention was given to the matter. This summer we are making a business of putting everything in perfect order, as well as of adding some improvements, so we got at the cistern. A bag of Portland cement was procured and some bricks and sharp sand. A brick wall, three bricks long and lying on flat side, was built up a full inch from the lining of cistern and so the crack would be about in the middle of it. Soft mortar was thrown in behind this brick wall as it was laid up. One part of cement to two of sand was used. The object of the brick wall was to hold the thick, heavy coat of cement mortar until it united with the old lining of cistern. Without some support one cannot make much stay on the smooth surface. The inside of brick wall was not cemented. This must surely end the trouble from that crack. I fear, however, we shall have to take out the filter wall, tear off all the old cement lining we can, cement all over again, then re-lay filter wall, before getting a perfectly tight cistern. The wall never was right. Poor materials were used by the builder. Do you wonder I insist on the using of pure sand and gravel and perfect mixing for cement floors? Perhaps common cement would have answered as well for fixing the cistern, but we wanted the surest possible work done. By the way, we found that the inlet pipe to the cistern had never been cemented at the joints, so often in a dry time the water could soak into the ground almost as fast as it came, when it was raining gently. So this entire pipe was surrounded with Portland cement mortar. Now no surface water can get in and no rain water escape. I was busy going to market most every day when the house was being built, having some 7,000 bushels of potatoes to move 12 miles, so could not watch that every little thing was done rightly. While we had the water out of the cistern I scrubbed down the brick wall that crosses near the centre and serves as a filter. Really this ought to be done and the cistern cleaned out generally once a year, to have water as clear and sparkling as comes from a spring. This brick wall is the best filter I know of. Water soaks through the bricks readily. Ours has been in use 20 years and is as good as ever, now it is well cleaned off, so far as I can see.

Some Mistakes and Corrections and Improvements.—When our house was built the mason used dirty sand to top out the chimneys, which has made us quite a little trouble. Mortar made of such material will not stand where it is exposed to the weather. A few years ago I had a part of the spaces between the bricks pointed up where the mortar had come out, seeing to it myself that the materials used were first-class. That mortar stands all right. The rest of the old mortar has gradually been working out, and now we have the cracks filled up again. I hope there is no more old mortar left. And while the men were on the roof they painted the valleys. As the roof is one-half pitch this is not a desirable job, any more than pointing over the chimneys, but it is necessary to keep valleys, eave troughs and tin roofs painted, if one does not want to go to the large expense of getting new ones. Good paint will wear some three years; tin soon rusts through nowadays unless protected. We use Venetian red mixed up with boiled linseed oil for tin. Yes, and while the brush was in the paint I put a coat on the slop barrel that is on wheels and stands under the outlet of the kitchen sink. How we did miss it for a couple of days while it was drying. Slop water is drawn away in this barrel and emptied around on the grass, once in a place; a safe and handy way of doing. Again, the outside cellar door is out on east side of house, but was not properly protected against driving easterly storms. Water ran down the side of the house some three or four times a year, usually, so a pailful got into the cellar. A galvanized iron trough has been nailed to the side of house, tightly, just above the cellar doors, to catch and conduct away the water that may run down the side of house. The doors were sawed off at the top so as to just miss this trough when being opened. Then we have had more windows put into the cellar, six in all now, to let in light and air. And the cellar has been whitewashed all over, plastered ceiling and sides. This helps insure purity of air and makes it lighter. I would not be at all afraid to sleep in any part of the cellar, nor to have the air from there come up into the house. It will come up more or less and people who value health should see to it that the cellar is always clean and free from anything that will foul the air, particularly in winter when it is closed. I must not forget to tell you that we cleaned out the well, also. There was almost no dirt in it, but we want it perfectly clean and safe. Twenty years ago when we built we thought our house about perfect for us. Seven years ago we added a small room to be used exclusively for a dining room, where the table could stand all the time with the dishes on, and also a front porch, bath room, etc. This summer we are spending about as much more, adding everything that will conduce to our comfort that we can think of. The main points sought are the greatest possible perfection in heating and ventilation. Today I have told you about a few of the smaller matters.

Health Hints.—How to Get Rid of Catarrhal Troubles.—A young farmer, living in Tennessee, has been ailing for months. At times he has been confined to his room, but is now able to do some light chores. A physician's diagnosis of his case is, "General catarrhal condition of the intestinal tract and perhaps ulceration of some parts. This condition of mucous surfaces disturbs the process of digestion and produces a general emaciation of the entire body." I have taken the liberty to make this statement more plain than the M. D. did, while retaining the meaning of his words. Now what is this catarrhal condition? It may occur in most any part of the body that is lined with mucous membrane. First, what is a simple cold in the head that causes the nose to run? In my opinion it is waste of surplus material that for some reason fails to get out through natural channels, the kidneys, the breath, the skin, the intestines. Nature starts up an inflammation and soon a new outlet, discharging the foul stuff through the mucous membrane of the nose. If the conditions that caused this irregularity continue, the trouble will become chronic and then we call it catarrh. Nature will work off this waste through parts of the mucous membrane that are by inheritance or otherwise, the weakest or thinnest. Understand that the mucous membrane is simply the internal skin and impurities can be thrown off through it as by boils through the outer skin. Some people have catarrhal trouble with catarrh in the head, some in bladder, some in stomach, or generally through the intestinal tract. To my mind the cause is practically the same in all cases. To cure, simply remove the cause. Medicine will never do this, although in the hands of a good physician it may alleviate or assist to a certain extent. To cure, the habits of life that brought on the trouble must be changed. Several others have written from time to time about catarrhal troubles. The same general plan of living will improve the condition of all. Eat only plain, wholesome food. Discard all pies, cakes and fancy dishes, everything that will coax the appetite to take more food than is needed. Eating only plain food one will not be likely to over eat, and over eating is one cause of catarrh. Chew all food until it is dissolved into liquid and cannot longer be retained in the mouth. It is best to eat mostly dry food, so as to get more saliva mixed with it. But make this change in food and chewing, and in everything else, very slowly, never suddenly. Drink pure water. Go to bed early, regularly, and get plenty of sleep. Eat fruit, graham bread, etc., such things as agree with you, so as to always keep the bowels from being at all constipated. Take a cool bath every morning and a warm one, using pure soap, once or twice a week, rubbing the skin thoroughly after every bath. This will help it to do its work better. Live in pure air, night and day, and attention to loose clothes and deep abdominal breathing will also help. Keep busy, always within your strength, but doing a little more day by day as you can. Don't worry over the big words the doctor used. Nature doesn't know anything about them and only asks that you live in accordance with her laws and she will make you well again. A chronic catarrhal condition cannot be mended in a week, or a month, probably, but persistent work will bring a cure in most cases in due time, or at any rate a much improved condition. If one steals a horse and gets caught, to State's prison he goes. There is less chance for escape from punishment when one violates nature's laws persistently. She is long suffering, slow to foreclose, but some time she will stop forbearing and exact the last cent.

T. B. Terry.

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Various Methods of Growing Clover.

FRANK A. MILES.

The agriculturist, as a rule, follows such a line of farming as to him seems most profitable, and clover is grown primarily for money. We would not buy or rent a farm on which some legume could not be grown, and if the unfortunate possessor of such an one would take immediate steps to dispose of it. The sources of money in a clover crop are principally hay, seed, pasture and, best of all, its effect on the land; and here the medium red is the preferred variety. More failures in clover growing are due to freezing out than to all other causes combined, and the wetter the soil the more certain the failure. The first preparation is thorough tile draining. As to sowing, there are three modes practiced here; first, sowing on surface, in wheat; second, seeding with oats, drilling; third, sowing seed alone. The first method is that most practiced. Some sow the seed by hand, but we have always used a fiddle broadcast seed sower. The better the preparation of the seed bed in the fall for wheat the better the chance for a good even catch of clover. Generally on medium to thin soils, commercial fertilizers are used, being drilled in at the rate of about 200 pounds per acre with the wheat. Potash and phosphoric acid are the plant foods most bought. We sow four quarts timothy seed when drilling the wheat and six quarts prime, re-cleaned clover seed in February following. Some wait as late as April, but we think early sowing surer to make a stand. The timothy is sown so that in case the clover does not catch evenly all over the field there will be no bare spots. We also have the advantage of a double seeding; and then with the timothy it makes a stiffer sod to break again for the following crop. The second method is used by some who have failed to get a stand, or have meadows run out, and find too much plow land and so cannot wait to practice a corn, wheat and clover rotation; as the oats-clover programme will give them a hay crop a year sooner. Good catches are obtained in this way when the soil has had extra good preparation.

The third method is used here where for any cause a spot does not catch, or is smothered out. If it is due to soil poverty a few loads of manure are scattered over the grounds. Then, as early in the spring as the ground can be worked, it is cut up both ways with disk, harrowed fine and level with a drag harrow, and seed sown immediately and covered with weeder. After a good stand is obtained the next essential thing to do is clipping. This is done by setting up the shoes on cutter-bar of mower and mowing off the tops of plants, weeds and wheat or oat stubbles after harvest. Never allow the young clover to head out much the first season. Clip twice if necessary to prevent, but do not pasture off, as clipping is life to the clover and death to the weeds, while pasturing is just opposite.

We think properly made clover hay better for all young growing stock than any other forage, and nearly indispensable for sheep and dairy cattle. Prefer it to feed farm teams except when doing heavy work in very hot weather. Cut clover hay when in full bloom, which is usually the case by June 20th in this locality. We usually mow right away after early dinner until supper. Tedder as soon as dew is off next morning, and if not ready to rake, again just before dinner. It should be ready to rake after dinner if weather is good. I determine this by taking a wisp and twisting it as hard as I can, and if I cannot squeeze out sap it is dry enough. It can be too dry as well as not dry enough, and much good clover hay is ruined by over curing. I like a tight mow rather than an open one for clover hay. Do not disturb it if it does seem hot, as airing it when it is in the sweat will cause it to mould. If no air goes through it the heads will come out as nice and red as when put in. We seldom shock clover hay as it is very hard to make clover turn rain, and we therefore get it into the barn as soon as we can. Nine times out of ten early cut clover hay gives the best chance for clover seed, both in quality and quantity. We like the old self rake reaper better than any implement we ever used for cutting clover seed, and would rather thresh or hull a little green than have to handle too much on account of heavy rains. Have known of clover seed being hulled three days after cutting, but prefer five or six unless weather is too threatening. The morning before you commence hulling raise the clover from the ground with a 4-tined fork. Do not turn or toss it, but simply run fork under bunch and lift it a little so the air will pass through. Haul to machine on sleds. Four teams will keep huller going. The haulm is valuable, so do not regard it as a nuisance, but rake it out on heavy or thin places in the field and spread by hand or with the tedder. If you let it lie long in the pile you cannot rake it out but will have to haul it. Clover is unexcelled for hog pasture. For pasturing we do not let it head, but clip just about that time. Turn off from it a few days, on another patch, which should have been previously arranged. When first lot gets started again let pigs in and clip second lot. This followed up all the season will cause your pigs to make a surprising growth. The greatest source of money from clover, although an indirect one, is its beneficial effect upon the soil. If all manure is properly saved and returned to the land, and the haulm is spread, we believe that by the third time around of a regular three or four year rotation of crops with clover as a basis, most farms would double in productiveness. The first round will improve the mechanical condition and make available nitrogen for the succeeding crops. Clover is a biennial, and therefore after it has produced a seed crop plow it the next year if you would have its effect at the best. Many make a great mistake right at this point. Each successive round seems to have a more beneficial effect than its predecessor, or possibly this is because our clover crops improve as well as others.

Licking Co., O.

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Second Crop Potatoes.

H. W. WHITNEY.

The truckers in this colony have always been interested in growing Irish potatoes, and while they find your advice good in the main, the most successful growers have found it best to vary somewhat from the methods you propose, especially in reference to the second crop. In the handling of the seed they find that potatoes ripened in early June may be kept for winter use, or for planting the next spring, by keeping in ventilated barrels in a cool place; also that the second crop may be kept for planting the next August by treating in the same way after danger of freezing is over in the spring, and that either crop may be sprouted almost at pleasure by putting in close barrels and increasing the temperature—after they have been well seasoned. This has led them to discard the old method of spreading out in a half shade to green and sprout, but for either crop they invariably select seed in which the buds are swelled if not sprouted, and cut it.

They get better results by planting the fall crop the same as the spring, viz., by dropping the seed in a deep furrow, then throwing a furrow onto it from either side, where they are left until well sprouted, then the beds harrowed down level, the after cultivation depending somewhat on the weather, which at time for planting the second crop is apt to be either very wet or very hot, and the beds protect the seed from either extreme. They prefer to put the fertilizer well down in the furrow, to prevent the potatoes growing too near the surface.

It is safe to plant the fall crop a little earlier in a cool, wet season than in a hot, dry one, the time varying from the 1st to 25th of August. In a season like the present one, with plenty of moisture and only three or four days so far of broiling sunshine, it is safe to plant at any time. I have about an acre planted the 5th of May that have done well from the start, are looking fine now and have potatoes the size of hens' eggs. I expect to put the same ground in fall potatoes after these come off the land.

Columbus Co., N. C.

[Under specially favorable conditions it is possible to keep the June-dug potatoes for spring planting. But they will inevitably sprout during the winter and will be less valuable for seed than the Northern potatoes. We kept some last summer and planted them in December when they were already sprouting, and if they had been kept a month or two longer they would have had to have the long sprouts rubbed off and would have been weakened thereby for seed. We feel sure that the best method to get the second crop from this seed is to plant and mulch with straw. We are apt to have plenty of rain during late July and August, but September and October are almost invariably dry and warm. Hence if not mulched at planting we would mulch them about the first of September, after harrowing down the ridges. These second crop potatoes can easily be kept over in good shape for planting a June or July crop, if they are spread out in the light as soon as they show signs of sprouting so as to keep the sprouts short and green. When the sprouts are well developed cut and plant as our friend says. These will ripen in the fall, while the second crop will grow until December and being unripe will keep better. For table use it will be better to keep over some of the second crop and get better matured potatoes.—ED.]

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Prairie Dogs.

E. HOLLENBECK.

The Department of Agriculture's Year Book for 1901 has an exhaustive article on these creatures, from which it appears one Texas dog town covers 25,000 square miles, with an estimated population of 400,000,000, and a possible increase of 400,000,000 annually. And there are other dog cities! And a great wail goes up because they eat pasture and live without water in that arid region! The Indian occupied land that was his. He was exterminated by war, white diseases, whiskey and marriage. The pigeon, the turkey, the bear, the deer, elk, bison, seal, even our robins are being exterminated because a few of them interfere with the dollar-grabbing, land-hogging descendants of European pirates. So the prairie dog must go, and the great land-grabbing United States recommends poison, fumigating with carbon bisulphide, and commends the rattlesnake because he eats the prairie dog pups. *Per contra.* These dogs grow very fat in the fall and dress a tidy bit of meat that is not such bad food. Now, from this report it looks as though from 200,000 to 500,000 tons of meat foods can be harvested from land "sparsely covered with grass, treeless and green in early spring and brown the greater part of the year." What a place to grow "1,562,500 head of cattle!" Could grow more meat with the prairie dogs and no cost except to catch them. Wouldn't it be better for the U. S. to reserve this vast territory as a meat preserve? Viewing the present and prospective high prices for meats, it surely looks as though there is money in it. If rabbits may be shipped from Australia in refrigerators, surely these may be utilized by us. Really, they are not dogs at all, and live as cleanly vegetarians as sheep are. Why should the great U. S. send them after the bison? Moreover, there is money in them and this appeals to a Yankee when sentiment is at one thousand per cent. discount. Besides, if you don't care to eat them, 200,000 tons of fertilizer isn't to be despised—and there's the oil. Phil. Armour would have made money out of them if his attention had turned that way. I'm surprised that the P. F. has joined the fortune exterminating gang!

Genesee Co., Mich.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

California Grasses.—Johan Johanson, Anada Cal.—"I send specimens of grasses marked No. 1 and No. 2. Please give name of each. What kind of grass will be best for permanent pasture where there is no rain from April to September? Will orchard grass do in this locality?" The specimen No. 1 is Calamagrostis Sylvatica. We know of no common name for it. No. 2 is Avena Fatua, or wild oats, a common grass in California and a useful hay plant. We fear that you have given us too hard a problem when you ask us for grasses for permanent pasture where there is no rain in summer. We suppose that you will have to look to some of the grasses that have survived such conditions, buffalo grass, for instance. You had better write to the California Experiment Station, at Berkeley. We are sure they can help you in this matter far more than we can.

Alfalfa in East Virginia.—Mrs. J. H. Werres, Petersburg, Va., says that she sowed alfalfa in April, 1902, and has kept cutting it during the first summer, and this summer has cut three times. But it still turns yellow and is now covered with crab grass. Her neighbors tell her that it will not grow in Virginia. Your neighbors are wrong, for it is growing in Virginia and north and south of Virginia. There are large fields of it in this State and there is no reason why it should not do with you if your soil is not too wet. On the great Biltmore farm of Mr. Vanderbilt, in Western North Carolina, it grows as finely as it ever grew in Kansas or Colorado, and in the central part of this State Col. Carr is making a money crop of alfalfa hay. It is probable that your land is not inoculated with the bacteria that live on alfalfa roots. If you write to the Secretary of Agriculture, Washington, he will send you a pure culture of this microbe and tell you how to use it on the alfalfa. Keep cutting it and do not let the crab grass choke it.

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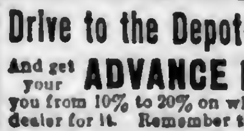

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WM. HENRY MAULE, Philadelphia.

Pasture in Eastern Maryland.—J. T. Anthony, Chestertown, Md., has a field that has been two years pastured, and which is now plowed preparatory to putting it permanently in grass for pasture. He proposes to keep it cultivated until in October and then to sow to wheat and seed down with orchard grass, red top and Kentucky blue grass, using 25 pounds of the mixture per acre, and wants to know if he is right or whether it would be better to leave out the wheat, and also how hairy vetch would do with this mixture. We believe that if we were establishing a pasture in your locality we would not use Kentucky blue grass, but would use the English blue grass, called, botanically, Poa Compressa. This is better suited to your soil than the Kentucky, which prefers a strong limestone clay soil. We would sow the amounts you propose, but put in the Poa Compressa in place of the Kentucky, and in the spring would scatter some red clover over the whole. We would sow the grass seed alone and not with wheat. Hairy vetch will do very well with the grass mixture, but might tend to smother the grass in spring. You can make a very good winter and early spring pasture with the hairy vetch alone if you let it seed on the land. You can then grow a summer hoed crop on the land and the vetch will reappear in the fall. I would not allow vetch to seed on land where I intended to sow small grain, for it will certainly damage a wheat crop. If cut as soon as in bloom there will be no trouble from it. The vetch is the "tares" of the Bible. It is all right sown with wheat for a hay crop and not allowed to make seed.

Yellow Clover.—M. R. Ward, Scottsville, Pa., encloses a plant for name. It is Trifolium Procumbens or yellow clover. Of late years some unscrupulous dealers have imported the seed of this plant largely for the purpose of adulterating red clover seed, and in this way it has become widely scattered over the country, while it is not worth growing.

Painting Inside of Silo.—H. W. Case, Clinton Corners, N. Y.—"Is water gas tar all right for the inside of silo? I went to the gas works to get tar to paint my silo and they told me that water gas tar is different from coal tar and I did not know whether it would injure my cattle." We do not know what you mean by water gas tar. We have used gas tar, but do not advise it. We have found that there is nothing better for the silo than a good coat of boiled linseed oil.

Pasture for Stock. — T. K. Elliott, Winnsboro, S. C.—"I want to use 12 acres of rolling hillside to the greatest advantage as a summer and winter pasture, for sheep and cattle. The land is principally red clay, and is partially set in Bermuda grass. It will make 25 bushels of oats or half a bale of cotton per acre with 300 pounds of fertilizer (say, 8 per cent. phosphoric acid, 4 per cent. potash and 4 per cent. ammonia). I want to pasture a dozen Herefords, and two dozen sheep, and can make such an expenditure for fertilizer and work, as may, in your opinion, be necessary to make pasturage for this number of stock, which I appreciate is an excessive number for the amount of land. Let me hear your views." No amount of fertilization will enable you to pasture that number of stock on 12 acres of land, even of high fertility, while yours is not of this grade. The farmers of the South have somehow gotten into an idea that all that is needed to make poor land rich is to apply fertilizers heavily. You can produce on that land a large amount of forage in the shape of cow peas or velvet beans to cut green or make into hay. For pasturing in summer there is no better grass anywhere than the Bermuda, and you are right where it reaches its best. Fertilizing will help the Bermuda, it is true, and you could prepare the land and sow hairy vetch in September at rate of 25 pounds per acre, and could get some winter and spring pasturage from it, and then let the Bermuda take the land during summer to be followed by volunteer vetch in the fall. By applying any high grade complete fertilizer you can get a greater growth of the grass, but you cannot make pasture for half that number of animals on 12 acres of your land in any grass we know of or with any amount of fertilizers.

Plant for Name. — Chas. A. Spry, Logansport, Ind. — "Will you please name the enclosed plant? We are trying alfalfa in a small way around here and this plant's similarity to alfalfa makes me want to know its name." Trifolium Procumbens, yellow clover, it seems to be, although the specimen is too poor to be certain.

Plants for Name.—Potash. — R. L. Roberts, Morganfield, Ky. — "Please name the enclosed grasses or weeds. I feared that No. 1 may be Johnson grass, as it spreads from root and seed both. Would like to know if potash in muriate contains more chlorine than potash in sulphate. Is chlorine objectionable or injurious to the land? Are coal cinders or slack used as a filler in a fertilizer injurious to land?" The grass marked No. 1 is couch or quack grass, and a worse pest than even Johnson grass, for pasturing will destroy Johnson grass, but never this one. It makes fair hay, but you can grow better grass and should destroy this or it will infest the farm so that you cannot grow wheat. No. 2 is crowfoot or yard grass, Eleusine Indica, sometimes called crab grass, but the true crab grass is Panicum Sanguinale, which makes a heavy hay crop in the South, while this one never does, as it grows in bunches. No. 3 we cannot identify positively from the specimen sent. It is probably a Veronica or Speedwell. Muriate of potash is more properly chloride of potash, and hence, of course, has more chlorine than the sulphate, which has none. Chlorine is objectionable for some crops, especially tobacco that is intended for burning, but for most crops the muriate or chloride is as good as the sulphate, and is also cheaper.

Mulching Strawberries and Raspberries.—Amos Seicher, Pettisville, O.—"Is cane pomace good to mulch strawberries? Would you use apple pomace that has been in leach since last fall to mulch raspberries with? They will haul them to get rid of them. I thought of piling them near the patch and putting them on in the spring." The cane bagasse might do to put between the rows to keep the strawberries clean in the spring, but where a winter mulch is needed it would probably lie too heavily and tend to smother the plants. Better use straw if you need a winter mulch. You might haul the bagasse and the apple pomace this fall and pile in layers with lime, covering each 6-inch layer with a good coat of lime, and in this way the material may become of some value on the land. But we would not use it until completely black and rotted. Either of these materials is too sour to do any good on the land unless composted with lime.

Clover and Ashes in Tenn. — T. P. Priestley, Greenfield, Tenn.—"I have a 30-acre field cleared 45 years, which was productive until ten years ago, and since that the corn and wheat crops were small. In winter of 1899-00 I hauled a quantity of wood ashes from a sawmill, where slabs and sawdust were burned. Cultivated the field in corn and sowed to wheat in the fall. In the spring of 1902 a fair stand of clover appeared on part of the land where the ashes were spread. This part was left when the field was prepared for wheat, and made a fair crop of hay this season. Last February clover was sown on the entire field and I have a fair stand and an extra good stand where the ashes were put. I mowed the field last month, and the clover shows still where every shovelful of ashes went, even on a chalky knoll where nothing had grown for years. Now, is there some mineral element in the ashes that made the clover grow? What was it? Would I get it in floats, or in what commercial fertilizer can I get it? Why were the ashes so long showing the effect, for they did not seem to do the corn and wheat any good. There has been little clover grown on this land since it was cleared." And that is probably just what is the matter with it. If clover had been grown on the land in a regular rotation from the time it was cleared the land would not now be termed old field. The ashes furnished lime and potash, and probably a small percentage of phosphoric acid. It was the lime and potash that did the work for you, in all probability more the effect of the lime, for the saw-mill ashes will have a small percentage of potash if they are allowed, as usual at such places, to lie out in the weather. You will not get any potash in floats, usually, but will get phosphoric acid that becomes slowly soluble in the soil, and you will get some lime in the form of a sulphate of lime or plaster, if the rock is dissolved, but in the floats you will get simply the insoluble phosphate of lime. It would seem that your land needs potash and the sweetening effect of lime. Give the clover a dressing of lime at rate of 20 bushels of freshly slacked lime per acre next spring before growth begins, and later topdress with a mixture of five parts acid phosphate to one part of muriate of potash and use 300 or more pounds per acre. Use this on part of the field and note the difference between this and where lime only is used and you will be getting closer to the reason for the action of the ashes.

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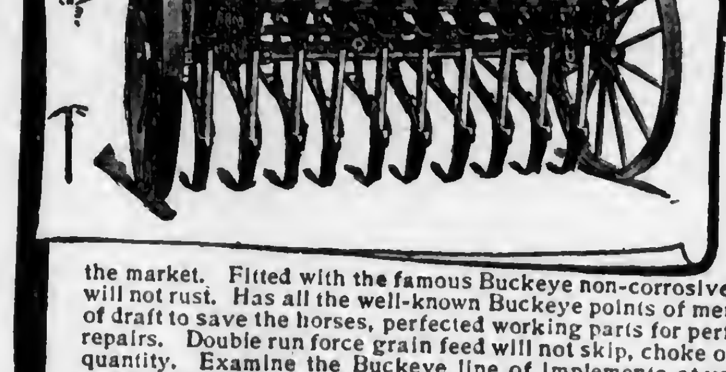

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Killing Brush.—N. Schortzen, Harris, Cal. — "Please tell me how and when to kill trees, buckeyes, madrones, snow oaks, black oaks, etc., without grubbing them out." Girdling with an ax well into the sap wood will kill the trees. This can be done at any time. If your query refers merely to the brush that sometimes gives trouble in sprouting where not wanted, we would say that the best thing to keep down brush is a mowing machine and smothering crops. Never let the brush get too large for the mower to cut down, and you will soon kill it.

Renewing a Meadow.—B. H., W. Va. —"I want to sow grass seed on a permanent meadow that has run out. Do not want to plow, but will harrow with a spike-tooth harrow. What kind and how much seed per acre shall I use, when sow and what kind of fertilizer will give the most lasting results?" In every operation on the farm we believe that whatever is worth doing at all is worth doing well. You may perhaps get some renewal of the grass in the way you mention. But it is not the best way at all. We would break the sod thoroughly now and put it in good order for sowing. You give us no information as to whether the land is low land or high or whether it is fertile or not, and you ask what fertilizer to use. It would be pure quackery for me to say what fertilizer is best everywhere, since soils differ so widely. Hence we can only suggest. After getting the land in good order we would apply about 300 pounds per acre of any standard fertilizer high in nitrogen or ammonia and would harrow this in. Then sow, if low land, 8 pounds of timothy, 5 pounds of red top in September or October, and in the spring scatter 6 or 8 pounds of clover seed per acre. If you merely scarify the sod we would still sow the same seed and probably a larger amount. When a sod has run out the only way to restore it properly is to break it.

Threshing Peas. — H. C. Kellogg, Scipio, Ark., wants to know if we have tried the method we mentioned last year of threshing peas with the shredder. No. We needed all our peas for hay and did not ripen any, since the seed crop was abundant and very cheap. But we have heard of others who claim that the method is a success.

◆

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Frank H. Battles, Seed Grower Rochester, N.Y.

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It spreads all kinds of manure, lime, salt, ashes, compost, etc., rapidly, evenly and better than it can possibly be done by hand. It makes no difference how hard, lumpy, caked, coarse, strawy or stalky the manure is,

The Improved Kemp Manure Spreader

will tear it apart, make it fine and spread it just where you want it and in any desired quantity per acre. Greatly improved for 1903. Send for our new illustrated catalogue, which describes improvements in detail, and tells about "How to Grow Big Crops." Catalogue mailed free. Remember that the only original and genuine Kemp Manure Spreader is the one made by ourselves and the patents thereon have been fully sustained by a recent decision of the United States Circuit Court.

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Sheep in Western Oregon.

DR. GALEN WILSON.

Theo. Cranz, Lincoln Co., Oregon, writes about as follows, but his communication had to be very much condensed: "I come to you once more for advice and general information. My sheep, though apparently well otherwise, have lately shown an affection I am not acquainted with. They sometimes have red spots on the lips the size of peas; some are so bad the lips are much swollen and mouth stands open, showing the teeth. I changed them to another field and gave two doses of sulphur with salt. The red spots left in a few days, but some of them returned. You advised me to get a Rambouillet ram. I subscribed for the Sheep Breeder, as you suggested, and corresponded with several breeders of Rambouillets, but their prices were so high, and as I was not a millionaire I did not buy. I talked with a great many experienced sheepmen at the Salem fair and they all advised me not to get a Rambouillet or any other Merino ram. There are scarcely any Merinos in Western Oregon. Owing to incessant rains on the Pacific coast, the Cotswold sheep are mostly in use here, and scarcely is a Merino to be seen. It is believed by all sheepmen here that the rains penetrate the fleeces of the Merinos and keep them wet and cold, while fleeces of Cotswolds, though loose and open, shed the heaviest rains, and on parting the wool, it would prove to be dry. I bought a Cotswold ram and have 86 head of sheep now; 25 are lambs, 9 wethers, 8 yearling wethers, and some very old sheep. Will one ram be sufficient for them? I expect to feed my ewes this winter, some hay, rutabagas, some rape pasturage and common pasture, for we have the last named the year round. I want to grow some oats for the sheep and other stock; but it is tedious threshing them by hand, and there is no machine to do it within 25 miles. I thought of buying a feed cutter. How is it I notice in the market reports of the P. F. that beef on foot is worth 5 to 9 cents, while here we get only from $2.75 per hundred for cows, to $3.75 for prime steers? Do you think it would pay me to buy and ship carloads of fat cattle? I am asking a great many questions, Dr. Wilson, but you have always been very kind to reply. If I had your experience with my willingness to learn, I ought to make a success of it even if I lived near the North Pole."

The red spots on the lips of your sheep were caused by coming in contact with some poisonous weed. I know the best Rambouillet rams are rated at a seemingly high price, but one that costs $100 is more profitable to purchase, usually, than one costing $25. There is likely to be a good deal of impure blood in cheap rams. That Cotswold sheep, or any other thin-wooled sheep, endures rainstorms better than any sheep of Merino blood, I shall believe when I am compelled to by observation. Even a man washing sheep in cold creek water—as I have done many times—is very much less chilly in a thick suit of woolen clothing than he would be with a thin or cotton suit on. Wool helps to keep the bodily heat in. One good ram will be sufficient for the ewes in your flock. It is not necessary to thresh the oats either for sheep or horses. Either will eat them up clean if so fed that they are kept out of dirt and litter. You could not, nor any other individual, make it profitable to buy and ship fat cattle to the East. The trusts will not permit it. They would cut you on every corner. The transportation companies would be the king bee in this case and their charges would swamp you.

[Would not a loosely woven suit of clothes dry out more quickly than a close woven suit?—Ed.]

Unprofitable to Cook Grain for Feeding Hogs. — Passing a farmer's fine premises the other day and seeing a furnace fire running briskly in an outhouse, I called to see what was occurring. I found the owner engaged in cooking ground corn, rye and barley to make a slop for his hogs. When asked if he thought that paid he said: "Certainly, or I wouldn't do it. For thirty years, I and my father before me, have done this same thing and I am sure we always have the nicest kind of hogs." He had kept no record nor made other experiments for comparison, and his only proof of the value of cooking food was that "it is so because it is so." German and American experiments unite in condemning the cooking of foods already palatable, because this causes a marked depression of the digestibility of the protein they contain without any compensating advantages. A large number of careful experiments have been made in this country on hogs, with results unfavorable to cooking. Four hundred and seventy-six pounds uncooked meal or grain were required for 100 pounds of gain, while when it was cooked 505 were required for the same gain, proving conclusively that cooking grain for hogs is worse than useless.

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The Utility of the Farm Separator.

JAS. H. MURRAY.

The utility of the farm separator, like a great many other machines, depends largely upon the operator. In the hands of a careless, slovenly person, who fails to see that his machine stands level, who fails to keep it properly oiled, who does not keep it supplied with milk at the right temperature, it not only will not do its best work, but will soon become badly worn; and after awhile fail entirely; but in the hands of a thorough, practical dairyman, one who is up-to-date in all his methods, who looks carefully after the many little details which go to make up his business—in the hands of such a man, there is no machine on the dairy farm which will pay so large a rate of interest on the money invested as the farm separator. To the farmer who is dairying after the old method, and who is leaving one per cent. of his butter fat in his skimmilk, I ask: Did you ever think you were losing about one-third, fourth or fifth of what your cows put in the milk? And if you have suspected such was the case, do you console yourself by saying, "O, well; it was not lost to the pigs and calves, for they get it, you know." Would you think for one moment of continuing to use a machine in harvesting your wheat that would leave one-third, fourth or fifth on the ground, and try and make it up by turning the hogs in afterwards?

In February, 1898, while at the meeting of the Michigan State Dairymen's Association, I was induced by the agent of the DeLaval Separator Co. to take a Baby No. 2 on trial. I was using then, and had been for some time previous, a cabinet creamer of large capacity and approved make—a first-class creamer in every respect. We were doing, as we thought, pretty good business, and were, in fact, so well satisfied that we very reluctantly promised to give the separator a trial; and finally did so. After getting the machine from the depot we placed it on a good foundation in the creamery, so that it stood perfectly level, and at once began making tests. We would run the separator long enough for a churning and then put the same number of milkings through the creamer, which still stood in the building; and after continuing these tests for a couple of months, we were surprised to find that, without a single exception, there had been a decided gain in favor of the separator. At last, we decided to make one more trial, covering a period of three days each, and let that decide the matter. We filled the creamer full of ice and kept it full during the entire three days. We drew off the milk and cream very carefully, taking pains to leave the last of the milk to be taken with the cream; ripened the cream and skimmed it and were pleased to find we had 41 pounds 4 ounces of butter. While ripening the cream from the creamer we had been running the milk through the separator, and when we had three days' milk run through, we ripened and churned the cream and had 44 pounds and 8 ounces of butter—a gain in favor of the separator of 3 pounds and 4 ounces—over 1 pound per day—more butter than it took to supply our family at that time. It is needless to say we carried the creamer to the barn, where it stands today, a relic of the past.

We reason in this wise: We kept ten cows during 1898, but were only milking nine at the time of this test; but as every one of them would have to go dry some time during the year, we thought it only fair to figure the whole ten; so, if the separator saved 3 pounds and 4 ounces or 52 ounces in three days, in one day it would save 17 1-3 ounces, and in 365 days it would save 6,326 ounces, or 395 pounds and 6 ounces of butter. Our butter averaged last year over 20 cents per pound, and at this rate the separator saved us over $80. The advantages to be derived from the use of the farm separator can be summed up in the following:

1st. A great saving of butter fat, as the best ones practically save it all. We have had bowls of skimmilk sitting for days at a time without showing a particle of color on top; and my Babcock tester shows too little to be read. They will save enough in a short time to pay for themselves.

2nd. A saving of time and labor. It used to take me half an hour both morning and evening, to wash the creamer. I can put the separator together and take it apart and wash it any time in fifteen minutes, thus saving me half an hour every day, which in a year would be 18 days of ten hours each.

3rd. A great saving of ice, as we only use a small cake in a tub to cool the cream in the warmest weather. And last, but not least, the advantage of having the skimmilk warm and sweet, and but a short time from the cow, to feed to calves and pigs. This cannot be estimated; but that it is much better, no one will deny who has ever tried it.

The Subject of Sheep Raising.

T. B. LINDSAY.

Sheep raising is more interesting now than formerly, because sheep are highly profitable under new conditions. Sheep pay the quickest and most liberal profit of any of the domestic animals. We turn to the market reports and find that spring lambs are selling at 5 to 8 cents per pound gross, according to condition and quality. We find that clipped old sheep, grass fed, are selling at $5.00 to $5.50 per 100, which I consider good paying prices. Today the sheep industry is based upon the improved and enlarged demand for mutton, and the wool is simply a profitable incident to the business. Mutton sheep are now worth about 2 cents a pound more than beef cattle. Sheep are more trouble to raise and care for than cattle, but they have a crop of wool to pay for it and more often than not the wool is sufficient to pay the board bill for the entire flock. But I think the right kind of sheep could be raised at a profit, even if like the hog—had no wool at all. When it comes to feeding cattle to fatten them it takes about 11 pounds of dry matter to produce a pound of gain, and good authorities agree that 9 pounds of dry matter will produce a pound of gain in sheep. Now we have three points in favor of sheep: First, that they sell higher per pound. Second, that they have a fleece to sell and cattle have not, and thirdly, they are matured for market at less price (pound for pound) than cattle. Someone has asked, Why then are there not more sheep in the country? The plain answer is that sheep raising is not popular, because it is troublesome. We are all looking for something easy. A troublesome dog will kill a sheep, but that dog would not have any show killing cattle. Farming has other fields of industry, without being bothered with sheep. In England where land is much higher they have about 4 head of sheep to one of cattle. If the United States had sheep in the same proportion per acre that England has we would have two hundred million of sheep and lambs, and that would be too many.

This article is not intended to do more than to invite farmers to consider the advantages of sheep husbandry under the new and favorable conditions. The population of this country once small, with plenty of game and fish, is now being educated in mutton eating. It used to cost all a sheep would bring to send it to market, but now we have a market at home. Sheep raising is now dependent on the farm conditions for success, as all the market conditions are in good shape. A sheep man can own a hundred dollars worth of sheep and every year of his life he can sell a hundred dollars' worth of sheep and have a hundred dollars worth of sheep remaining on hand. A sheep man can improve his little pasture; can have his pens made secure; can have his sheep healthy at all times; can sleep at night knowing that his flock is safe; can have his lambs come when he wants them; can have a better flock every year; can feed sheep and get them fat; can market them at the right time, and sell a clip of wool each year. But if a man is not a sheep man it is worth money to find it out. They say in the city when a man has failed at everything else he may yet solicit life insurance. If he can do that successfully he wastes his time trying to do anything else; for an insurance agent cannot be successful without he makes plenty of money. It is so on the farm. A man may not be a sheep man; if so that is his misfortune; if he is a sheep man his fortune is made.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Lameness.—I have a mare about 12 years old weighing about 1,400 lbs., which has been lame about 2 years. She became lame while working on a tread power threshing. The lameness seems to be between top of the femur and its stifle. An application of soap and salt will remain wet and show sweating both outside and on inside of the limb. It now shows near stifle. She is much better when kept perfectly still, but makes her very lame if exercised.

Greene, N. Y. WM. J. HOTCHKISS.

We are unable from your description to locate seat of lameness, but if you are sure that you are correct in your diagnosis it might be well to blister the part as so often advised in this department of the paper. It would be better, however, to call in a qualified veterinarian to make an examination as there may be a fracture of shaft of illium or some injury requiring treatment other than that of blistering.

Puff.—I have a mare 3 years old, unbroken. I turned her in the pasture this spring and I noticed a small lump coming on her left knee about as big as the end of your thumb, and seemed to be soft, but couldn't see that it had been bruised or pricked by barb wire. It has grown steadily ever since and is now larger than a hen's egg and still soft. Could you let me know if there is anything I can do to take it off?

Ogden, Utah. W. L. JENKINS.

While you do not state exact location of puff it is likely due to a bruise if in front of joint or to striking with foot of other leg if on inside of knee. Clip hair from enlargement and blister twice a month with a mixture of one drachm each of powdered cantharides and biniodide of mercury. Rub it in for 15 minutes and wash off in 48 hours; then apply lard daily. Tie her so she cannot bite part when blister is acting. In some cases it is best to open such enlargements when they contain serum, but we cannot advise as to this without full particulars in regard to the case.

Injured Tendons.—I have a good horse which became suddenly lame and by examining found a small puncture in left hind leg about three inches above pastern joint. The puncture seemed to have gone between the tendons and bone. I had it probed and found nothing. It was the last of June when she became lame, and for about four weeks she could bear scarcely any weight on it. When she began to get better she bore a little weight on the toe; now she seems to bear on the heel and turn the toe up a little, except on solid ground. The tendons on back of pastern joint are enlarged.

Mud Lick, N. C. THOS. DAFFRON.

Clip hair from back tendons and have them feather-fired and blistered by a competent operator. Afterwards allow one month's rest in box stall. No other treatment will give such good results as firing in a case of this sort.

Tumor.—Have a colt three months old, and about two weeks ago there came a lump on left side in front of hip, on the ribs; it keeps getting larger. Colt is in good condition and eats heartily. What can I do for him?

Talbot, Ind. A. J. RHODES.

We cannot state confidently what is the nature of the tumor, but it may be an abscess forming so that when it becomes soft it will have to be opened and treated by syringing with carbolic solution, then packing with oakum saturated in a mixture of equal parts turpentine and raw linseed oil. On account of the location care should be taken in opening enlargement, as there is some possibility of a rupture being cause of tumor. If it is known that colt was kicked or otherwise injured then it is reasonable to suspect that an abscess is forming.

Sores.—I have a horse that has his mane partly rubbed off; neck is swelled some and has bare spots on each side that are red and scurfy. Has also bare sore spots around breast and down legs a little ways, which sometimes have a thin red discharge.

Sunman, Ind. EDWARD WINDHORST.

We cannot from your description decide as to nature of condition present, and would advise you to have horse examined by a veterinarian, as there is some suspicion of farcy.

Spavin.—Can you tell me what to do for my horse? He has a spavin, which started about six months ago. Is only 5 years old and hearty and sound except for this spavin. Would it do for me to fire it or not? I have seen it done once by a traveling veterinarian.

Parowan, Utah. H. S. HYATT.

Your accompanying sketch does not show proper location of spavin, which comes low down on inside of joint; neither do you state whether horse is lame or not. The soft enlargement referred to is a thoropin and that alone might cause lameness. On general principles we would advise you to clip hair from entire hock joint and blister with ointment so often advised in this department of the paper.

Failure to Breed.—Have a Jersey cow that has been milking since March, 1902. She comes in heat almost regularly; except once, I noticed she came in heat in eleven days from time she was served. Cannot get her with calf. She is perhaps 8 years old. Is running on pasture with a dairy of nine cows. She gives at present about eight pounds of milk at a milking. A fine butter cow.

Cortland, O. A. B. COWDERY.

In such cases unless non-breeding is plainly due to fatness from overfeeding an expert examination should be made to determine condition of the mouth of the womb, which is often found closed by a catarrhal discharge from the womb. Success sometimes follows the artificial opening of the womb by means of instruments, but it is a difficult matter and does not always succeed. Unless a competent veterinarian can be employed better reduce the feed and wash out the vagina with two gallons of warm water and two tablespoonfuls of baking soda once daily for a week prior to usual time of coming in heat. Then allow several young bulls to serve her in succession just when period of heat is about over.

Fistula.—Spavin. — I have a valuable mare three years old that has a knot or growth on her withers. Some say it is fistula but it has not broken yet. The mare is with foal by a jack. She is broken to work, but I do not know whether the collar caused it or not. The swelling is on the left shoulder blade and there seems to be a gristle in it. She also has a spavin knot on her right hind leg just below the knee joint.

Jonesboro, Tenn. J. H. DEAKINS.

Fistula is due to ill fitting harness or bruise from other cause; spavin is often due to strain of hock joint from any cause which sets up inflammation, but in most cases it comes from heredity from mating spavined sire or dam. Apply lard to enlargement of shoulder and when skin is well clip hair from part and blister repeatedly with ointment so often advised in this department of the P. F. Let the spavin alone if lameness is absent. If mare is lame have spavin fired and blistered by a veterinarian, then allow six weeks' rest tied up in stall so that she cannot lie down. This operation should not be performed prior to foaling.

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Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

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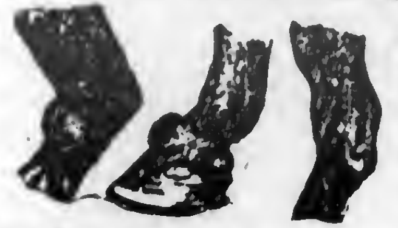

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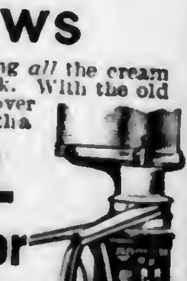

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Current Comments.

Growing Asparagus. — J. F. S., of Marion, Ind., wants to be told the best ways and methods of raising asparagus. He desires to raise some next spring. There is, of course, no objection to his planting it next spring, or to raising the plants next season, but he will hardly succeed in raising the vegetable itself until a year later at best, and even then not in full supply. Like all really good things, it takes time to produce asparagus, but when you once have it in full bearing, you have it for years to come, and it is so good as to be worth all the trouble to get it. By all means try to secure good, strong one-year plants (of any of our standard varieties, such as Argenteuil, Palmetto, Barr's Mammoth, Conover's Colossal, etc.). Then you have a good starting point. Select a rich, well drained spot of ground, preferably a little off one side where it will be out of the way of the ordinary garden crops. It should be given a permanent position, say with the rhubarb, small fruits, etc. Manure heavily, then plow deep furrows, five feet (more or less) apart, and set the plants, with roots carefully spread, in the bottom of the trenches, two to three feet apart, and cover lightly with fine earth. Gradually, as the plants start into growth, fill the trenches with soil and manure, using especially fine compost around each plant. If the patch is large enough occasionally go through between the rows with a cultivator, or if small, give it a good, deep hoeing. Keep down the weeds, and the surface mellow. In the fall, more manure may be applied, the plants cut down when having finished their growth, and burned up. Early next spring give the patch a thorough digging over with cultivator or hoe. Hill up the rows, and you are ready for harvesting at least a portion of the earlier stalks. I would not cut stalks off such a new patch for more than two weeks the first season, and not all of them then. What we want is a good strong plant that after the second year can be depended upon to yield full crops of fat stalks.

Excessive Top Growth in Onions.— D. W. Dickinson, Hickman, Ky.—"Early in March I sowed one pound of Brown Australian onion seed on a hillside of rich, black loam, securing an excellent stand. The crop was kept clean and the tops have made an enormous growth, probably will average two feet high. Only about one in a hundred is making any bottom. I attempted to bend the plants down to induce bottoming, but broke them off they are so tender and brittle. Now, what shall I do to make them bottom? It has been a remarkably wet and cold season here." In a season like the one described, or as we had it here all summer, namely, cool and wet, the onions usually keep growing much later than in a dry season, and have the tendency to run to top, especially at first. Should the weather be drier during the latter part of summer and up to fall, the onion plants will most likely make bulbs, and may produce them of mammoth size. We had that experience last year with our Prizetakers and Gibraltars. This year our onions were planted unusually late, and favored by cool and wet weather, are still green and growing. They always make large tops in such seasons. I can see no advantage in breaking the tops down before the bulbs have grown to large size, and very little even then.

Canning Lima Beans. — Nelson T. Williams, Farm School, N. C.—"Please tell me your process for canning pole lima beans. I have just canned 38 cans and they have spoiled. I have had good success in canning tomatoes and string beans, and treated the lima beans in the same way and do not understand why they spoiled." The lima bean is one of those vegetables which the good housewife can put in cans with hopes but not with confidence of success. They sometimes keep all right; more often they spoil, and the reason of their spoiling is not always to be discovered or even suspected. Mrs. Rorer, the great expert in cookery, gives the following recipe: "Fill the jars full of uncooked beans, then fill the jars full of cold water, and lay on the tops. Place hay or straw in the bottom of a wash boiler; place the jars on this, and pour in sufficient cold water to half cover them. Put the boiler over the fire; cover it closely with the lid and boil steadily for three hours. Take up the jars; see that they are filled to overflowing, and screw on the covers as tightly as possible. Stand aside, where the air will not strike them, to cool. When cold, again screw the covers, and keep in a dark, cool place. Asparagus and peas may be canned in the same way."

Asparagus Forcing.—Celery.—E. A. Abbott, of Copeland, Idaho, asks for information about forcing asparagus in hotbeds, also about celery. A little later in the season we will reply to this more at length in an illustrated article. The only "forcing" that is now being done in a more general way, with celery, is the growing of the plants under glass for the early crop. I shall also have more to say on this subject later on.

Wormy Radishes.—Mrs. J. B. Luce, of Cherry Creek, N. Y., says she has planted radishes on a piece of green sod top dressed with cow manure, and obtained radishes large enough for table use in three or four weeks from sowing seed, but they were mostly spoiled by worms. There are others who had a similar experience this year. In fact, the great majority of all radishes grown were terribly wormy, perfectly worthless. And, worst of all, there is no absolutely reliable remedy known. The application of fresh manure usually makes a bad matter worse. The use of chemical manures, especially muriate of potash, seems to have a tendency to mitigate the trouble. Some of our market gardeners apply common salt to their radish patches, and claim that they have fewer wormy radishes. Where muriate of potash is used, salt will not be necessary, as the muriate contains it.

Wood Ashes for Garden Crops. — A reader in Findlay, Ill., asks how many tons of unleached ashes he should use to an acre of his black prairie soil, especially where it is mucky. He proposes to apply thirty 2-horse loads of manure, and use ashes besides; and wants to know whether this would do on ground already fairly well manured, for Prizetaker and Gibraltar onions, cabbage, tomato, sweet corn, pepper, egg plant, etc. I have a very high opinion of wood ashes as a fertilizer, whether leached or unleached. The unleached ashes, of course, are a little one-sided, supplying mostly potash, which in the process of leaching, is for the greater part removed, leaving the ashes weaker in plant foods, but these (*i. e.*, potash and phosphoric acid) more nearly balanced. Therefore, by using three or four times the quantity, we may secure even better results from leached than from unleached ashes, and when using the unleached, especially on soils like mucky prairie, which we suspect are not abundantly supplied with phosphoric acid, we might profitably make additional applications of a little superphosphate, or possibly bone meal if more easily obtained. Without the superphosphate (South Carolina rock) I think I would use rather more ashes than are required just to furnish the needed potash. It will take about a ton of an average quality of unleached wood ashes to supply 100 pounds of actual potash, so that a dressing of two tons per acre would about equal that of 400 pounds of muriate of potash, the latter quantity being usually considered a very liberal application on soils in as good condition as the inquirer describes. Thus, for most garden crops, a two-ton application would be sufficient when a little superphosphate is added. Without it I would give an additional ton or two of the ashes. Ashes, even if applied in still larger doses, are not liable to harm any garden crop under average conditions. On the other hand, we must consider the particular needs of different vegetable crops. For instance, cabbage and cauliflower require great quantities of potash. A full crop may remove 400 to 500 pounds of potash per acre. No other vegetable will require so much. Onions and celery can also stand heavy applications. No doubt, on soil that is already fairly good, the application of stable manure at the rate of thirty 2-horse loads per acre, with a couple of tons of ashes, would be fully sufficient to support large crops of any of our common vegetables. Yet it might prove too much for some of the tomatoes that naturally make heavy vines, although the application of ashes and superphosphate may have a tendency to promote fruit setting when plenty of space is allowed to each plant. I would prefer to go a little more lightly in this respect unless for tomatoes of a somewhat dwarfish habit of growth. For eggplants and peppers, the ground cannot well be made too rich. We must use good judgment in all matters.

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Notes from a Carolina Garden.

The abundant rains of August have not only encouraged the plant growth we want, but have obliged us to work very rapidly in the keeping down of the weeds. As is usually the case here, the early planted tomatoes are failing, and but for the plants grown from seed sown June 1st, we would soon be without tomatoes. But the rains have brought on the late plants wonderfully. We thought at one time that the dry weather had about ruined our prospects for muskmelons, but the rains brought these on and we have had quite a feast of them. A little while back, arguing that pumpkins grew in corn, we could not see that melons should not. So we planted a lot of muskmelon seed among the sugar corn, and now they are rambling in every direction and setting fruit freely. Planting in the corn promises to be a success and we will make a note of it for another season. The Rocky Ford or Netted Gem has been the most prolific, and its good quality and convenient size make it desirable for the table. Many carloads of this melon have been shipped North from this State this summer at profitable prices to the growers. The pride of the Southern shrubbery, the crape myrtle, is now, and has for some time past, been in its glory. I grew some years ago a number of seedling plants from carefully hand fertilized flowers and have from these a number of shades in color heretofore lacking. They range from a lilac shade almost white, through pink to the darkest purple, and several of them are well worth sending out as completely new.

English peas for fall use are now just above ground, and we planted the first of September some Premium Gem peas as a succession to the first ones. Our great winter crop, lettuce, will now occupy attention for the seed for the crop to head in November and December must be sown the last of August. Then we make three other sowings, middle of Septembber, first of October and middle of October for the last crop in the spring. The November and December crop seldom needs any protection. From January to March the crop is grown in frames protected in cold nights by glass sashes. The plants for spring setting are the last ones sown and are only protected in extraordinary cold weather so as to keep them in good shape until March, when they are set out for heading.

Points and Pickings.

English Broad Bean.—Wm. Payne, of Box Elder county, Utah, says that the English Broad bean succeeds well there, and gives green beans from July until November. It likes warm weather with plenty of moisture, and grows better in Utah than it does even in England. When through bearing the plants throw out new branches from the root, and make a second crop. The green beans are good to eat, and when dry, they make good soup. The Broad bean is not used for stock feed in England, as the people think it is too good for such purpose. What is known as the "horse" bean is smaller, about one-half inch long and nearly square in shape. This is used for stock food.

Preserving Summer-Killed Beef.— A reader in Oklahoma asks whether fresh beef, killed in August, if cooked and canned in sealed Mason jars, will keep, or what other way there is to preserve it for winter use. No question beef killed during the summer season can be put up, cooked, in cans just as if killed in the fall, winter or spring. And probably it may be kept for a long time if pickled. Who among the readers can tell us other good ways of preserving summer-killed beef?

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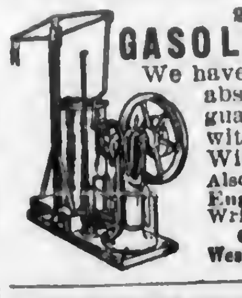

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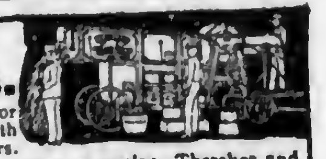

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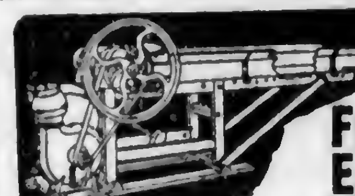

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Apple Crop in Pennsylvania.

In the absence of the peach crop, which is almost a failure this season, owing to late frosts, it is a pleasure to all, and a source of profit to the fruit grower, to have the large apple crop the trees present. In the southern and eastern parts of the State the trees are very full; and the commission men say the crop is good over all the State. Not only are the trees bearing well on the grounds of those who have sprayed them, but on the farms of those who have not, there is also a good crop. There are back date farmers in all sections, presumably, at any rate there are in this, and it is really grieving to hear these old-timers denouncing the utility of spraying, "for," they ask, "are not the trees bearing well without having been sprayed?" They forget that when their neighbors destroyed a host of curculio by spraying they put out of the way that many that would, some at least, have preyed on their own fruit. I have no doubt that the large number of injurious insects which spraying has destroyed is what has caused the better crops which this State has seen in recent years. It is not many years ago that the apple crop was classed as one of the most unreliable of all, so small was the crop that no account was made of it. It is changed now. Apple crops are again fairly reliable, even for those who do not spray. Besides the enormous number destroyed by Paris green sprayings, insect pests come and go, just as human diseases do. This year it may be curculio; next tent worm; then bag worm, borers, etc. Usually these pests take periods of two to three years each, disappearing then for a time. This year the aphis is the great pest, not a tent caterpillar, and but few bag worms to be seen, but the young shoots of growing fruit trees are so smothered with aphis as to be seriously injured. The fruit grower must be determined in his war on insects, then his business will be a pleasure to him. Do not rely on the spraying your neighbor does for the destruction of insects which would come to your trees.

Planting Trees in Early Autumn.

Probably where rigorous winters prevail it may be as well or better to plant trees in early spring rather than early fall, but in our sections early fall is much the better time. Time and again have orchards of fruit trees and plantations of others been killed out by drought in the Middle States. As a rule, May is a dry month, and this is the month that catches the newly planted trees of April. Where climate permits of March planting, as it does a little further South, the trees would have a chance to take roothold before May came. Nurserymen and landscape gardeners say it is almost impossible to get customers to plant in the fall, as the tree planting fever is peculiar to spring, and cannot be brought on in autumn. Commercial men do their own planting at that time, commencing as soon as the leaves have ripened in late September. They find these trees will root in a few weeks, and before cold weather sets in are well established, passing through the winter excellently. In the line of fruit trees the only exception is that of one-year peach trees, which it has been found do not winter well when fall planted when severe winters follow. When severe winters are expected and even when they are not looked for, it is a good thing to mulch the ground above trees freshly planted. It keeps frost out and moisture in, enabling the roots to keep up activity all winter long. In the way of small fruits fall is a good time for them if mulching can be done, otherwise it is as well delayed until spring, as without mulch frost is apt to heave out the plants. Strawberries are better in spring in all the Northern States.

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Horticultural Queries

Ants on Rhubarb, etc.—Please tell me how to keep young ants from eating my rhubarb off just below the ground; there are some small bugs, not as big as a pin head, bothering it also. Have tried salt but they keep killing it. 2. What can I use to protect my cherry trees? I have 18 fine young Early Richmond trees. People tell me that they will do fine here until they get old enough to bear and then something eats the tap root off and they die.

Weiner, Ark. GEO. VANSICKEL.

Boiling water poured in the nests of ants will kill them. You could capture those about your rhubarb plants by soaking a sponge in sweetened water and placing it near the plants. The ants will swarm to it, when the sponge may be dipped in boiling water, then sweetened and re-set by the plants. I do not know what it is may eat the roots of your cherry. At any rate, look on the bright side, and maybe your neighbor's predictions will not come to pass.

Fungus Attack. — Some of my cherry and plum trees are dying—about one to one and a half years before the bark bursts open, at the collar of the tree, to the height of about 12 to 15 inches, some less. Generally by the time this is discovered underneath the crack is hollow, and a thin fluid oozes along down the sides, which appears to be corrosive, while at some smaller places it is more sticky—about like thick molasses. Where the wood is exposed at the injuries it is dead some time before the tree dies. A few started at the fork of the trees.

Barto, Pa. SUBSCRIBER.

Injuries of this nature are nearly always caused by some fungus attack. A good whitewashing, with lime and sulphur, in winter, or sprayings with Bordeaux, are the most valued agents in meeting the evil. In the winter season trees will sometimes split their bark on the south side. Alternating freezings and thawings does that and it does not destroy the trees, as a fungus attack is very apt to do.

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English Ivy.— Where the climate will permit of its use the common English ivy makes a fine evergreen vine to cover a grave. It will stand more cold when close to the ground than when on a building. As a guide to its hardiness it will bear saying that about Philadelphia it is hardy in either situation, and in some cemeteries it is largely used.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Queries Answered.

The Langshan.—Chas. N. Roelings, Baltimore, Md.—"Please give me information about my Black Langshan chickens. In a young rooster (three to four months old) is it a sign of impure breeding if he has a few white feathers under jaw, and large wing feathers tipped with white? Also if tip of bill is brown, or if he has white toe nails? I would like to have a full description of the breed." The question of the white-tipped wings is often asked. The young Black Langshan has almost invariably white-tipped wings, and more rarely an occasional white feather on the neck, head or body. It is no sign of impure blood. The plumage of the adult should be a brilliant, glossy black, blueish or greenish, perhaps, but never a brown shade. The latter is a decided disqualification. The feet are very nearly like those of the dark colored turkey, of clear blue-black. No shade of brown or yellow is allowable. The bill is dark, possibly with a lighter spot at the extreme tip. The carriage is proud. Weight of hen from 5 to 8 pounds, of cock up to 12 pounds, a weight of 10 pounds being quite common. In spite of this weight the birds are active, and often able to mount a 5 or 6-foot fence. The skin is white, and very pin-feathery in young birds, but meat is of excellent quality. The Langshan makes a fine capon, large and plump, although not yellow-skinned.

Chickens Dying.—A Reader in Manhattan, Kan.—"My neighbor's chickens are dying. Can you name the disease and give the remedy? They can't hold their heads up; their legs are weak, and they hold their wings out. Their droppings are white, like the white of an egg, and they froth at the mouth. The froth is white and clear. Their combs are red. They live two or three days after sickening. She does not feed them, as they run about the barn and crib. Have free range. Both young and old are affected. They have been eating rotten corn, which was in the flood. Also, I think they are lousy." The trouble, undoubtedly, is a violent disturbance of the digestive canal, beginning with fetid fermentation in the crop, owing to the rotten corn, and possibly to foul, stagnant drinking water, and ending in irritation in bowels. The remedy seems as obvious as the reason. Withhold all rotten food and bad water, and give nothing but perfectly sound grain, especially wheat and oats. Corn alone, especially if bad, is not a safe poultry food for summer, nor even for winter. Ten chances to one, the chickens are lousy, too. Lice seldom fail to attack ailing poultry. The mighty hen mite, no doubt, also infests the roosting places and nests. No wonder the chickens die.

Best Breed. — W. J. Davis, Shiloh, N. J.—"What is the best kind of hens for laying, and for selling broilers and roasters?" We have already touched on the question of "best breed" in recent issues of the P. F. Possibly the breed which we would consider best might not be the one which would satisfy the inquirer, or some others. If eggs alone were the first consideration, we would name the Leghorns, as we doubt that there is a breed in existence which can excel them as layers. But what our friend wants is a large breed. He has the choice between the Wyandottes and Plymouth Rocks. Both are fairly good layers and excellent for broilers or roasters. One person will probably have better success with one breed while another might find the other more profitable. And then there are strains of each breed, some showing great improvement over other strains.

Disinfectant for Poultry Houses.— "Reader," Canton, Pa. — "Please give formula for a disinfectant for disease germs in poultry houses. Must be strong and effective and reasonably cheap, because of the great amount shall have to use." One of the very best germ killers, and a very cheap one, besides, for poultry houses, is the fumes of sulphur burned in a closed house. Drive the hens all out in the morning. Close doors and windows tightly. Then burn a quantity of sulphur in an iron pot or pan. The best way, perhaps, is to throw a shovelful of live coals into the pot or pan, perhaps on a quantity of ashes, and then throw a handful or two of sulphur on top. Get out quickly, and close the door behind you. Leave the house closed until well towards night. There will not be much left of live disease germs, or live insects, either. In case you don't want to burn sulphur, or find it impracticable to do so, you may use a thorough spray or wash of dilute (1 per cent.) crude carbolic acid.

Perches.—A. H. Starns, Altoona, Pa. —"By advice of most poultry raisers and various illustrations I have seen, I am led to think that two roost-poles are all that should be used in a pen. Now, I read in the P. F. (June 6, '03) where 30 birds can be kept in a pen and shed, as given in the P. F. of March 23, 1901. Now I want to build one of these continuous houses, but I cannot understand how 30 Rocks or Wyandottes can roost on two poles, because these two poles only furnish 15 feet of roosting space. Why not have three or more roost poles? Is it advisable to use sawdust to fill the space between siding and lining, and between roof and ceiling of roosting pens?" We know of no reason whatever, why the number of perches should be restricted to two. In fact, we have four in our poultry houses and find them all right. Better use plenty of poles than have the fowls crowded too closely together, especially in hot weather, and when there is much danger of the increase of vermin. For winter, the building should be snug and warm, yet with thorough ventilation without draft. The sides may be made double, and the spaces between filled in with sawdust or chaff, care being taken that the boards are whole and sound, so that no mice or rats can get between and take up their permanent quarters between the double walls.

◆

Pointed Poultry Paragraphs.

When You go into the hen house in the evening, or handle hens off the perches, and you come to the house and feel things creeping all over your neck or arms or face, it is time for you to apply kerosene all over the perches to clear them of mites.

Mongrels are not what we want. The pure bred fowl is the profitable one. If the breed you have—may they be Plymouth Rocks, Leghorns, Wyandottes, or any other—suits you, keep it, and by all means keep it pure. Then try to improve it by selecting the best fowls—those most nearly reaching your ideal—for breeders.

Feeding Ducklings. — Corn meal and bran are the principal foods used by Curtis & Co., of Niagara Co., N. Y., who raise Pekin ducks by the thousand, for their young ducks. The little ducklings are started on two parts bran, one part bread crumbs, one part corn meal, one-half part low-grade flour, one-quarter part beef scraps and one-quarter pound fine sand. The bread crumbs are dropped and the proportion of corn meal increased as they grow older. When ready to fatten, the ration is changed to two parts corn meal, one part bran and 10 per cent. beef scraps. The Curtis ducks weigh about five pounds each when ten weeks old.

Pigeons on the Farm.—The American Stockkeeper comes handsomely to the defense of the pigeon, which is so often considered a nuisance and made a target for marksmen with shotguns. It maintains that a flock of pigeons helps the farmer more than it injures him, and says: "Pigeons cannot pluck grain from standing stalks. They can only take what is on the ground, and do not obtain a hundredth part of the grain that shells out in harvesting and is lost. The good work of the pigeon, in addition to its value as food, consists in destroying the weed seeds. In the crop of one pigeon killed at nightfall were found nearly four thousand weed seeds, and apparently that had not been a good day for seed gathering, as the seed filled only a part of the pigeon's crop."

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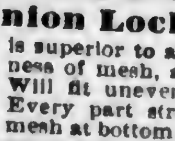

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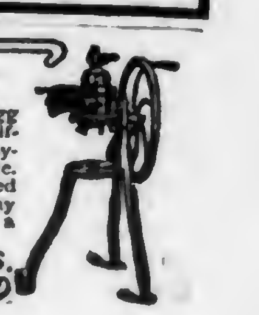

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The Practical Farmer.

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Published Weekly by The Farmer Co.
P. O. Box 1317
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PROF. W. F. MASSEY, Editor.

Philadelphia, September 12, 1903

Clean Up.

When preparing land for the wheat crop do not stop with the land where the wheat is to be sown. If there are brush piles and dead weeds around your fields all winter where the chinch bug damaged you this summer, you may be certain that you will have plenty of chinch bugs next summer. The mature insects live all winter under the trash about the fields, and one of the most important duties of the fall and winter months is to give the farm complete cleaning from brush and trash of every kind. Clean up the fence rows and burn the dead grass on the headlands and thus not only destroy a host of chinch bugs but add a neater appearance to the farm.

The Common School Education of Today.

President Wilson of Princeton, in his inaugural address, said: "The college is not for the majority who carry forward the common labor of the world, nor even for those who work at skilled handicrafts which multiply the conveniences and the luxuries of the complex modern life. The college is for the minority." And as the colleges have been managed in the past they have been for the favored minority. But as Prof. Ramsey of the University of Glasgow, said recently, in an address on efficiency in education, if this is the fact, the secondary schools that are preparing boys for college are also working for the minority. But with the inauguration of real colleges for the people there has come a field for the secondary schools, a field as yet little occupied, that of preparing the majority for the colleges that recognize the needs of the majority. While the old classical schools may remain for the minority the great majority want none of their training. As Prof. Woodward says, "We want living languages and living issues. We must teach the duties of an American citizen rather than the manner of life of a slave holder in Athens or Babylon. We must teach the mechanics, hydraulics, electricity and chemistry of today rather than the physical theories of Aristotle and the alchemists. We must illustrate and explain the battle of Santiago rather than the battle of Salamis. It is a thousand times more interesting and more useful to the average boy to know how modern engineers tunneled under the Alps than to read the fabulous stories of how Hannibal made a road over them; to know how Eads built a railroad bridge across the Mississippi, than to decipher Cæsar's foot bridge over the Rhine; to analyze and comprehend the waterworks of Boston or London, than the hydraulic system of ancient Rome, marvelous as it was; to master the universal language of drawing than to get a smattering of a language no one speaks and no one writes; to become familiar with modern methods of construction and the skillful use of tools and machinery, than to speculate over the Tower of Babel or the Pyramids of Egypt." And we would add, far better to learn the nature that is all around the rural school house and the mysteries of the plant life on which the work of the farmer depends. In short, far better to educate and train the boy of today to be prepared to take an active part of the work of the world, and to become a better citizen of a free nation than to puzzle over the Georgics and Bucolics of Virgil. Let the minority continue to study these things, but do not continue to educate the majority in the same lines of uselessness. The secondary schools of today should be for the majority and should prepare them for the real colleges of America, the technical colleges of agriculture and mechanic arts.

The Work of the Agricultural Colleges.

"A college of agriculture can no longer confine itself to the teaching of mere technical agriculture. It must stand for the rural school, the farm home, and every enterprise that makes farm life attractive and profitable. * * * The college of agriculture stands for the country and the persons who would live in the country. * * * Therefore, an extension work is really necessary to a modern agricultural educational enterprise."—Prof. L. H. Bailey, in Rural New Yorker.

To one who has watched the first feeble efforts in the teaching of agriculture in the colleges established for that purpose soon after the war the growth of agricultural education is really marvelous. There are still some States which have as yet failed to fully wake up to the importance of agricultural education, and especially to a realization of the great work for the agricultural colleges and Experiment Stations outside of their own grounds and buildings. In States where the men in the college are the men for the times there has come the comprehension of the fact that the work of the college cannot be confined to the body of students assembled within its walls, but must be carried out to the men on the farms. The Farmers' Institutes form not only a means for helping the farmers in their work, but for awakening them to the importance of education in technical agriculture for their sons. When intelligent men get to thinking over what they hear at the Institutes, and are roused up to better efforts in their own behalf, they soon begin to think that there is something yet to be learned and that their sons who are to follow them on the farm should be better prepared for their life work. In the winter short courses and summer schools for teachers of the rural schools the colleges are getting closer to the people who live on the farms. In one college we know of over 300 teachers in the public schools attended the summer school this summer. These will carry back with them some new ideas in regard to nature that is all around them in the country, and the pupils there will be getting new ideas about the things they are daily in contact with on the farm. Filtering through these teachers the college of agriculture will bring about a realization of the fact that education in agriculture must begin in the rural schools, that a love for nature must there be instilled into the boys and girls who are to occupy the farms in the future.

On the Road.

At the Institute at Roxboro, N. C., we were treated to a surprise. When the large audience had assembled an old farmer rose and asked if he would be allowed to say a few words before the Institute opened. He was told that he could. He then told the farmers present that, in his opinion, any farmer who wanted to improve in his business was making a great mistake if he did not subscribe to the P. F., and urged them, as the Editor was present, to do so. We said that we had no idea what our friend was going to say, and that while we tried at each Institute to have some copies of the P. F. for farmers to see, we did not feel free at a State Institute to actively canvass for the paper, while we hoped that the copies distributed would interest some of the farmers in the paper. One of the most pleasant things in our Institute trip is the continual meeting with the men who have found the P. F. a help, and who come out to the Institutes to tell the Editor how much they admire the paper. One man at the Roxboro Institute said: "You may not know it, but I know that you have helped the farmers of this State more than any man who ever lived in it." Of course these expressions are pleasant to one who has been giving his best efforts to helping the farmers all over the land to better use of the Creator's gifts in the soil they cultivate, and while one will certainly not make a fortune at this work, he can feel that his life has not been in vain in the world. Our readers, we are sure, will pardon the pride we take in these personal allusions, and will allow us to say that the greatest reward they can make us will be in an earnest effort to still further extend the reading of the P. F. among their friends and neighbors. A paper that is weekly filled with original matter costs a great deal more than one made of clippings from others, and the wider its circulation the more of valuable original matter it can supply. So we hope that all will take the example of our friend at Roxboro, and tell to the farmers around them what the paper is doing for them, and in this way help to not only extend its circulation, but to enable the owners to make it better and better every week.

At the Roxboro Institute we met a farmer who is probably the largest tobacco grower in the world. This is Col. J. S. Cunningham, whose estate lies along the Hyco, a tributary of the Dan River. Knowing that he grew tobacco largely I asked him how many acres he planted in the weed. "My crop is smaller in area this year than usual," said he. "The low price of tobacco is rather discouraging, and instead of planting 800 acres as usual, I have but 700 acres this summer." It was rather hard to grasp the idea of one man having so much land in tobacco or any other one crop, for it means 3,500,000 plants of tobacco. North Carolina is the second largest tobacco growing State in the country, and usually gets more money out of the crop than any other State, since Kentucky, which grows a larger area, seldom gets as much for her crop as North Carolina. But now the tobacco growers are in a very depressed state of mind, and are making vigorous efforts to organize for a fight against the Tobacco Trust, which absolutely controls the price of tobacco, having hardly any competition in the market. The tobacco growers are organizing for a fight against the trust, but what the result is to be it is hard to predict, for it is a difficult matter for farmers, many of whom are compelled to sell their crop, to win in a struggle with a great combine completely organized and with abundant capital behind them. The great trouble with the tobacco growers in the South is that, like the most of the cotton farmers, they have all their eggs in the one basket. They have neglected stock raising and systematic farming, and when the tobacco crop fails them they are in a bad way. It seems to us the way out is not in an abandonment of their money crop, but in the growing of it in a more farmer-like way in a rotation designed for the improvement of their land through the growing of forage and the feeding of cattle. Slowly they are coming to this in some places. Up on the "Meadows" of the Dan River some enterprising men have bought in the Doddies and they say that where in former days they raised black men they are now covering the land with black cattle. One young man in Rockingham Co., N. C. who has long been an earnest student of the P. F., is still a large tobacco grower, but he showed me an Angus calf he has bought for $150, and is going to feed more cattle in connection with his tobacco farming. When a man gets to the point of paying $150 for a bull calf of improved blood he will soon be farming better. The Ohio man who brought the first Angus cattle to the Rockingham meadows said that he was surprised at the beauty and fertility of that land, and said that if such land was in Ohio it would bring $100 an acre instead of $10. The hills and valleys of the Dan are beautiful and evidently designed by nature for the growing of grass and the feeding of cattle, and some day will be the seat of a great cattle industry.

The Cream of the Bulletins.

Alabama Agricultural Experiment Station, Auburn, Ala. Vetch, Cow Pea and Soy Bean Hay as Substitutes for Wheat Bran. By J. F. Duggar.

The bulletin states that the object of the experiments was to ascertain whether the hay made from vetch, cow peas and soy beans could be profitably substituted for most of the wheat bran in the feeding of dairy cows. In calculating the cost of the feeds wheat bran was estimated at $20 per ton, vetch hay at $10, cow pea hay at $10, cottonseed meal at $20 and cottonseed hulls at $5 per ton. Vetch hay proved fully equal in feeding value to a similar weight of bran. By this substitution the cost of the food required to make a pound of butter was reduced 25 per cent., which is equivalent to a monthly saving of $22.20 in a herd of twenty cows, whether the vetch ration cost of food for one pound of butter averaged 10 cents in contrast with 13.4 cents when wheat bran was fed. The waste in feeding vetch hay was about 6 per cent. of the amount offered, and with cow pea hay about 16 per cent., which is charged against them as part of the ration, the portion of the cow pea hay actually eaten proved fully equal in feeding value to a similar weight of wheat bran. Charging the cows with all the cow pea hay offered them, we find that cow pea hay had 86 per cent. of the feeding value of wheat bran, one ton of this hay being equal to 1,720 pounds of wheat bran. Thus it was shown that when wheat bran is worth $20 per ton cow pea hay is worth $17.20, and vetch hay $20. The monthly profits per cow were $4.65 on the vetch ration and $4.35 on the cow pea ration. One of the Jersey cows in this test produced butter at a cost for food of but eight and one-third cents per pound when fed on vetch ration. Running cow pea hay through a cutter did not reduce the amount of waste. Four and a half per cent. more butter was produced with soy bean hay than with cow pea hay if we take account of the portion of each actually eaten, but a larger proportion of the coarse stems of the soy bean hay was left uneaten. When corn hearts were substituted for wheat bran the yield of butter was increased by 8 per cent. The following combinations of food stuffs made satisfactory daily rations for Jersey cows weighing 700 to 800 pounds and producing a little more than a pound of butter per day:

(a). 4 lbs. cottonseed; 2 lbs. of wheat bran; 11.8 lbs. of vetch hay. Total, 17.8 lbs.

(b). 6.5 lbs. cow pea hay; 9.6 lbs. cottonseed hulls; 4.8 lbs. cottonseed; 2.4 lbs. cottonseed meal; 2.4 lbs. wheat bran. Total, 25.7.

(c). 6.6 lbs. soy bean hay; 8.6 lbs. cottonseed hulls; 4.3 lbs. cottonseed; 2.2 cottonseed meal; 2.2 lbs. wheat bran. Total, 23.7

It was found that manure was produced at a rate of 1,740 pounds per month, or three and a half tons per cow during the stabling period of four months. Almost exactly half the manure was left in the barn during the stabling period of 16 hours, and an almost exactly equal amount was deposited during the eight hours while the cows were in the lots. During the time covered by the tests each pound of dry food consumed resulted in the production of about two and a half pounds of manure.

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CONTENTS

AGRICULTURAL. — Improving the Home.—A Cold Room in the Cellar.—Mending a Crack in Cistern.—Some Mistakes and Corrections and Improvements. — Health Hints.—How to Get Rid of Catarrhal Troubles. 161
Various Methods of Growing Clover.—Second Crop Potatoes. — Prairie Dogs. 162
QUERIES.—California Grasses.—Alfalfa in East Virginia. 162
Pasture in Eastern Maryland.—Yellow Clover.—Painting Inside of Silo.—Pasture for Stock.—Plant for Name.—Plants for Name.—Potash.—Mulching Strawberries and Raspberries.—Clover and Ashes in Tenn.—Killing Brush. — Renewing a Meadow.—Threshing Peas. 163
LIVE STOCK AND DAIRY.—Sheep in Western Oregon. — Unprofitable to Cook Grain for Feeding Hogs.—The Utility of the Farm Separator.—The Subject of Sheep Raising. 164
VETERINARY. — Lameness. — Puff.—Injured Tendons.— Tumor. — Sores.—Spavin.—Failure to Breed.—Fistula.—Spavin. 165
GARDEN. — Current Comments.—Growing Asparagus. — Excessive Top Growth in Onions.—Canning Lima Beans.—Asparagus Forcing.—Celery.—Wormy Radishes.—Wood Ashes for Garden Crops.—Notes from a Carolina Garden.—Points and Pickings. 166
HORTICULTURAL.—The Apple Crop in Pennsylvania. — Planting Trees in Early Autumn.—Horticultural Queries.—Ants on Rhubarb, etc.—Fungus Attack. 167
POULTRY. — Queries Answered. — The Langshan.—Chickens Dying.—Best Breed. — Disinfectant for Poultry Houses.—Perches.—Pointed Poultry Paragraphs. 167
EDITORIAL.—Clean Up.—The Common School Education of Today.—The Work of the Agricultural Colleges.—On the Road. 168
CREAM OF THE BULLETINS. 168
COMMERCIAL. 169
HOME CIRCLE. — Prize Offer. — The Universal Parlor Bird. — Useful Plants.—All in a Lifetime: Part 10. 170
In the Kitchen.—Among the Flowers.—Our Book Table. 171
OUR EXPERIENCE POOL.—Topic No. 589.—Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf? 172
FARM IMPLEMENT ANNEX.—The Manure Spreader.—Success with the Weeder. — Handy Wood Hauler.—Stone Picker.—Our Experience with an Incubator.—To Stretch Wire for Picket Fence.—Weight of Implements and Vehicles.—The Chain Mower.—Adjustable Marker.—Wheel Hoe. 173
SHORT CUTS BY P. F. SUBS.—Curing Self-Sucking Cows.—Cure for Mange on Horse.—For Tying Corn Shocks.—Canning Beans.—Lime Water for Breeding Sows.—Stove Polish.—To Sun Quilts.—Sewing Hints.—Canning Tomatoes Whole.—Home-Made Trap for House Flies. 174
POSTAL CARD CORRESPONDENCE. 176

WHEN a friend drops the P. F. he quickly discovers his mistake. Mr. J. M. Crouch, of Ripley, N. Y., in sending his subscription, writes: "I have taken no less than six agricultural papers during the past twelve years. I made a mistake when I dropped The Practical Farmer. It is the best of all because it deals with farm and stock matters in a plain, practical way that makes it helpful. I am glad of the chance to have my name restored to your list." No matter how many other agricultural papers a farmer reads, the P. F. gives him something different and something better than all the others. Your sitting-room table is not complete without a copy of the P. F. on it.

COMMERCIAL

Philadelphia, Sept. 5, 1903.

WHEAT.—	
No. 2, red, spot and Aug.	82 @ 82¼
No. 2, Penna. and Del.	84 @ 84¼
No. 3, red	77 @ 77¼
CORN.—	
No. 2, spot and Aug.	55¾@ 56
No. 2, yellow, track	61½@ 62
No. 3	51¾@ 52
OATS.—	
No. 2, white natural, new	40½
No. 2, white clipped	41½@ 42
LIVE POULTRY.—	
Fowls, hens, per lb.	12½
Roosters, per lb.	9
Spring chickens, per lb.	14 @ 15
Spring ducks, per lb.	12
Old ducks, per lb.	11 @ 12
DRESSED POULTRY.—	
FRESH KILLED.	
Fowls, choice	13
Fowls, average	12 @ 12½
Old roosters	9
Broilers, nearby	14 @ 16
do Illinois, d. p.	14 @ 15
do Western, d. p.	14
do do do av	12 @ 13
do do scald	11 @ 12
BUTTER.—	
West. creamery, 1sts to extra	18 @ 20
Ladle packed	13 @ 15
Prints, nearby, 1sts to extras	20 @ 21
Prints, West. do do	18 @ 20
EGGS.—	
QUOTATIONS—M, mark; L, loss off.	
Nearby fresh, ret'bl crates, L	22
Western, choice, free case, L	21 @ 21½
No. West. do do L.	21½@ 22
So. West. do do L.	20 @ 20½
So. choice do do L.	18 @ 18½
Recrated eggs 1@2c. above wholesale prices.	
CHEESE.—	
N. Y., f. c.—	
Choice and fancy	10¼@ 10½
Fair to good	9½@ 10
State, part skims, prime	6 @ 8
Domestic Swiss, No. 1 new	13 @ 13½
GREEN FRUITS.—	
Plums, N. Y., 8-lb. basket	
Burbank	15 @ 18
Damson	20 @ 25
Reine Claude	20 @ 23
Green Gage	20 @ 23
Peaches, Del. & Md., bas.	90 @ 1.75
Grapes—Del. & Md.—	
Concord, per carrier	60 @ 90
Moore's Early, carrier	60 @ 90
Nearby, 8-lb. basket	15 @ 18
Watermelons, So., car	100.00 @200.00
Canteloupes—	
Del. & Md., fancy, crate	2.00 @ 2.50
Del. & Md., ordinary, crate	75 @ 1.00
Jersey, per ½-bu. bas.	15 @ 50
Col. Rocky Ford, crate	4.00 @ 5.00
APPLES AND PEARS.—	
Apples, per bbl.	2.00 @ 2.50
Per basket	20 @ 50
Pears, N. Y. Bartlett, bbl.	3.00 @ 3.50
Clapp's Favorite, per bbl.	2.25 @ 3.00
POTATOES.—	
Jersey, prime, per bas.	20 @ 30
Sweets, Va., pr., yellow, bbl.	2.00 @ 2.25
do Jersey, ⅝-bu. bas.	60 @ 65
BEANS AND PEAS.—	
Beans, marrows, H. P., bu.	2.60 @ 2.85
Pea beans, H. P., 1902, bu.	1.90 @ 2.15
Green peas, per bu.	1.50
Scotch peas, per bu.	1.55
COTTON.—	
Cotton, per cwt.	12.75
FEED.—	
Bran, bulk, winter, per ton	18.00 @ 18.50
Bran, sacked, spring	18.00 @ 18.50
HAY AND STRAW.—	
Timothy, new, No. 1	15.00 @ 15.50
do new, No. 2, small	13.00 @ 13.50
Timothy, mixed, new	12.00 @ 14.00
Straw, new, straight rye	14.00 @ 16.50
Oat	7.50 @ 9.00
Wheat	7.00 @ 8.50

PHILA. LIVE STOCK MARKET.

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Beef cattle steady for best grades.

Extra steers	5¼@ 5½
Good steers	4¾@ 5
Medium steers	4½@ 4¾
Common steers	4 @ 4¼
CALVES.—	
Calves active for good handy weights.	
Extra calves	7½@ 8
Fair to good	6¼@ 7½
Poor and common	5 @ 6
Grassers	3 @ 4½
HOGS.—	
Hogs active for good weights.	
Fat hogs, Pa. & Del.	6 @ 7½
Fat hogs, Western	7¾@ 8¼
SHEEP.—	
Sheep and lambs about steady for best grades.	
Sheep, extra	4¼@ 4½
Sheep, good	3½@ 4
Sheep, medium	3 @ 3¼
Sheep, common	1½@ 2½
Lambs, spring	4 @ 6¼

The New York Market Review.

The struggle between the bull and bear element for control of the wheat market has resulted again in the steady improvement in prices, and with a continuous upward tendency. Seaboard clearances have been good the past fortnight, but they cut actually little figure in the situation, owing to the predominance of crop news and conditions. The interior receipts have increased, but the general indications of heavy demand here and abroad more than offset any gain in this respect. The prospect of a busy export season was never better. The cool weather has, of course, affected corn, and strengthened prices, but receipts have been quite liberal and farm offerings large. Exporters are indifferent at present prices, but for any turn in the market they stand ready to buy. Oats have ruled generally firm and steady, but not with any great amount of change. Rye is firm, and also barley, but neither is very active. Some 50,000 packages of butter were received the past week, a slight falling off from the previous, and the market is steadier for all good table grades. Fresh fancy creamery butter is in the heaviest demand, and some extra marks reach 20c. per lb., but qualities below firsts are moving slowly. State and Western dairy is in rather small supply, and quality is irregular, although full outside prices are obtained for all desirable goods. Western factory butter meets a good demand from exporters, but renovated and imitation creamery are both dull and almost stagnant. Cheese also fell off in receipts the past week, dropping to 34,000 boxes, while nearly 6,000 were immediately taken for export. This added firmness to the market, and enabled holders to command half a cent a pound more for nearly all top grades. Cables are higher, while the holdings in Canada are high and firm. Exporters are showing more interest and anxiety to secure goods suitable for their needs. Skims and part skims are dull and cheaper.

The market for live poultry is weak, with supplies rather more than the demand, and both fowls and chickens are quoted at easier prices. Geese, old roosters and turkeys are steady, with supply small, but ducks and pigeons are slow. The market was in very unsatisfactory condition all the week for dressed poultry. This was due as much to the poor condition of the stock as to the liberal receipts. A good many of the lots were evidently delayed in transit and injured in this way, but poor packing and icing is also noticeable. Large fancy roasting chickens are in fair demand, and they sell the best of all. Nearby and Western spring ducks are plenty and weak, and fowls are dull. Tame dressed squabs are about steady. Instead of increasing fresh supplies of eggs have further decreased, and the demand is so far ahead of the receipts that prices are daily advancing. Very few desirable Western fresh eggs are arriving, and stocks have been cleaned up so closely that holders are growing anxious. The high prices demanded for fresh eggs have largely increased the consumption of storage eggs.

There continues a good market for all fairly satisfactory hay, and supplies show no oppressive accumulation. The demand has tended toward restriction, but this is natural for this season of the year. Old and new hay is quoted at the same figures, and the new receipts show fair quality. Very common rough hay that has been held over will not have much attention shown now in competition with the new. Supplies of straw run good and full, but the market is shaping in buyers' favor. The over supply of potatoes of two weeks ago has been lessened lately by a reduction in receipts, and the market has had time to recover some of its normal tone. The advance in white potatoes has also been followed by sweets. Onions are also in active demand, with pulling going forward satisfactorily. Cucumbers and pickles are quiet, but cabbages are firm and active. Apples are in liberal supply, but most of them are of ordinary quality. Shippers have been sending their fancy apples to Europe, which has robbed the market here. Bartlett and other choice varieties of pears have met with a fair demand and outlet. Peaches are not very plentiful, and they are selling at good prices. Grapes are low and plentiful.

G. E. W.

New York, Sept. 5, 1903.

WHEAT.—	
No. 2, red	86½
No. 1, No. Duluth, new, f.o.b.	92½
CORN.—	
No. 2	59
No. 2, f. o. b.	59¼
No. 2, white, f. o. b.	59½
No. 2, yellow, f. o. b.	60½
OATS.—	
Standard, white	40¾@ 41¾
No. 2, white	41 @ 42
No. 2, white clipped	42 @ 43
No. 2, mixed	38
No. 2, clipped	38¾
No. 3 mixed	37
No. 3, white clipped	41½@ 42
No. 3, white	40 @ 41
HAY AND STRAW.—	
Timothy, pr., l'rg bales, cwt.	1.05
do No. 1	90 @ 95
do No. 2	82½@ 87½
Clover, per cwt.	55 @ 60
Clover, mixed	70 @ 75
Straw, long rye, per cwt.	75 @ 1.00
BUTTER.—	
Creamery—	
Firsts to extras	18 @ 19¾
State dairy, tubs—	
Firsts	17 @ 18
Western Factory—	
Firsts, current make	15½
West. Imitation Creamery—	
Finest	16 @ 17
Renovated—	
Firsts to extras	16 @ 17
Packing stock—	
No. 1. current make	14½
No. 2 and 3 current make.	12 @ 14
CHEESE.—	
State, f. c., small, fancy	10¼@ 10⅝
Good to prime	9½@ 10
Large colored, fancy	10⅛
Large white, fancy	10
State, light skims—	
Choice	7¾
Part skims, prime	6 @ 6¼
Full skims	1 @ 1½
EGGS.—	
QUOTATIONS AT MARK.	
Nearby, fancy selected, white	24 @ 26
Mixed lots	23
State and Pa., f.g., extras	23
Seconds to firsts	19 @ 21
Western, fresh gath., extras	22
Firsts	21
Dirties, No. 1, candled	16½@ 17
Checked eggs	12 @ 14
LIVE POULTRY.—	
Spring chickens, nearby, lb.	14
Southern, per lb.	13½
Fowls, per lb.	13
Roosters, per lb.	8
Turkeys, per lb.	12
Ducks, West., av., pair	60 @ 75
Geese, West., av., pair	1.12 @ 1.25
Live pigeons, old, pair	25 @ 30
Young, per pair	20 @ 25
DRESSED POULTRY.—	
Turkeys, spring, d. p., lb.	18 @ 25
Scalded, per lb.	15 @ 20
Old, mixed, per lb.	14 @ 16
Broilers—	
Phila., fancy, large, lb.	18 @ 19
Phila., mixed sizes, per lb.	15 @ 17
State and Pa., fancy, lb.	15
Medium sizes, per lb.	12 @ 14
Fowls—	
Ohio & Mich., scalded, lb.	12
West., d. p., av. best., lb.	12
Scalded, av. best, per lb.	11½@ 12
Old cocks, per lb.	8
Spring geese, East., per lb.	17
APPLES AND PEARS.—	
Apples—	
Snow, per bbl.	2.50 @ 3.25
Crab, per bbl.	1.50 @ 2.00
Orange Pippin, per bbl.	1.50 @ 2.00
Fall Pippin, bbl.	1.75 @ 2.25
Nyack Pippin, per bbl.	1.75 @ 2.25
Pears—	
Nearby, common, per bbl.	1.25 @ 1.75
Kieffer, per bbl.	1.50 @ 2.00
Clapp's Favorite, per bbl.	2.50 @ 3.50
Bartlett, State, per bbl.	3.25 @ 3.75
Up-river, short bbl.	2.50 @ 3.25
Bartlett, 20-lb basket	55 @ 65
GREEN FRUITS.	
Pineapples	
Fla., Red Spanish, crate	2.00 @ 2.75
Smooth Cayenne, crate	1.75 @ 2.50
Grapes—	
Up-river, car., Delaware	1.00 @ 1.25
Up-river, carrier, Niagara	1.12 @ 1.25
Champion, case	40 @ 60
Moore's Early, per case	75 @ 85
Brighton, per case	60 @ 75
Worden, per case	75 @ 85
Muskmelons—	
Jersey, per bu. box	50 @ 75
Maryland, per crate	75 @ 1.50
Baltimore, crate, selected	1.75 @ 2.00
Average, per crate	1.00 @ 1.25
Norfolk, per crate	30 @ 40
Per barrel	60 @ 1.00
Col. Rocky Ford, f'cy, cr't	3.50 @ 4.00
Pony crate	2.75 @ 3.25
Watermelons, per 100	5.00 @ 14.00
Per car, best	135.00 @150.00
Per car, average	75.00 @125.00
Peaches—	
Maryland & Del. per bas.	1.00 @ 1.50
Western Md., per carrier	2.75 @ 3.25
Up-river, pony carrier	1.25 @ 1.50
Per basket	50 @ 75
Jersey, best, per basket	1.25 @ 1.50
Plums—	
Japanese, 3-lb. bas.	15 @ 22
Large, blue, 8-lb. basket	25 @ 27
Common, 8-lb. basket	10 @ 15
Egg, 8-lb. basket	18 @ 20
Damson, 8-lb. basket	30 @ 35
Blue Gage, 8-lb. basket	17 @ 20
Bradshaw, 8-lb. basket	22 @ 25
Green Gage, 8-lb. basket	20 @ 22
German prunes, 8-lb. bas.	40 @ 45
Huckleberries, per qt.	4 @ 8
Cranberries—	
Cape Cod, bbls.	6.00 @ 6.50
Per crate	2.00 @ 2.25
VEGETABLES.—	
Brussels sprouts, per qt.	10 @ 14
Cabbage—	
Per 100 heads	5.00 @ 8.00
Per crate or bbl.	1.25
Cucumbers—	
Jersey, bu. box	80 @ 1.00
Per bbl.	2.50 @ 3.00
Cucumber pickles, per 1,000	3.00 @ 4.00
Celery, fancy, per doz.	40
Good to choice, per doz.	15 @ 35
Washed, per doz.	40 @ 50
Eggplants, Jersey, per bbl.	1.00 @ 1.25
Per bu. box	30 @ 40
Per ½-bbl. bas.	40 @ 60
Green corn, per 100	1.25 @ 2.25
Lettuce, Boston, per doz.	30 @ 40
Western N. Y., per case	1.00 @ 1.25
Lima beans, potato, per bu.	1.25 @ 1.50
Jersey, flat, per bu.	1.00 @ 1.25
Peas—	
Telephone, West. N.Y., bas	1.50 @ 1.75
Small, per bas.	1.25 @ 1.37
Peppers, Jersey, box	30 @ 40
Per bbl.	75 @ 1.00
String Beans—	
West. N.Y., bu. bas., green	1.00 @ 1.25
Bu. bas., wax	1.00 @ 1.50
Tomatoes—	
Best Jersey, per box	40 @ 50
Acme, per box	40 @ 60
Choice Jersey, per box	25 @ 35
Russia turnips, per bbl.	1.50 @ 2.00
Onions—	
N. J. yellow, basket	1.25 @ 1.50
White, per basket	1.25 @ 1.75
White pickling, per bas.	1.50 @ 2.50
POTATOES.—	
Long Island, per bbl.	2.00 @ 2.37
Jersey & Md., round, bbl.	2.00 @ 2.25
Jersey, long, per bbl.	2.00 @ 2.12
Per bag	2.00 @ 2.15
Sweets, So., yellow, per bbl.	1.75 @ 2.25

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best five manuscripts that reach our desk before October 22. None considered unless sent direct to Mrs. V. C. Melville, Sun Prairie, Wis.

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Prize Article.

The Universal Parlor Bird.

ANNIE STOCKINGER.

Among the different species of song birds, the canary has long been the favorite. And yet it is no unusual thing for many people to think that these little songsters suffer by being held in captivity, and they cannot approve of what they suppose deprives them of their freedom. But that canary birds feel deprivations through close confinement is not always the case. Being bred and reared in captivity, they have never known anything else, and are perfectly happy, while upon liberation, they are either easy prey to their numerous enemies, or else they succumb for lack of food and drink. That they are, therefore, dependent upon us for their food, is all the more reason that we may cage them regardless of scruples held by those unfamiliar with the habits of birds.

Where there is a family of children, there the song bird has a mission to fill. Gradually becoming dependent upon their kindness for the fulfillment of his wants, the children grow conscious of his dependence, and are naturally led to consider his wants and to minister to them, through which they learn his habits; an understanding springs up between them, and a love is cultivated by the children that goes out to each and every creature of the bird species.

There is no better incentive toward enhancing a love for all birds, than to allow the child an opportunity to grow acquainted with bird pets of his own. Having this privilege, he will derive more knowledge of bird life, and in time will evince more love for the entire species than is possible to be gleaned from books or from the talks of others during his impressionable life.

Having always had all sorts of birds, we were early led to give them every attention, and to teach them innumerable little tricks. Now when we see boys old enough to have cultivated a sense of kindness toward all living things in general, and to the little songbirds in particular, returning from Sunday School, and in their best clothes, climbing trees to rob a despairing pair of birds of their tiny babes, and then throwing the helpless little victims as far up into the air as eye could see, or else taking them to the creek to use for bait, to the delectation of their own uncultivated nature, we feel like uttering a tremendous protest in behalf of these tiny bits of feathered spirituality.

Numerous instances of this kind could be recounted, but these are merely given to prove the fact that those mothers who prefer to have their rooms unstained and free from all evidences of such little moulting paper-tearers, rather than children rendered kind and loving by daily association with birds, are the very mothers whose children grow up to be cruel and brutal men and women. And not only cruel to animals, but to their own kind as well. The man who evinces a tender regard for a little bird can never be cruel, his mind is never led to thoughts of revenge, or to murder. Without this object lesson, this canary to love and to protect, the mother will find it of little or no avail to preach to her children against the great sin of cruelty to birds.

We have often heard mothers declare that canaries were undesirable things to have in a house because "they are so dirty." And school books, papers, pictures and such, must also be laid on the top shelf, because if the children were allowed to have them, "you know, they litter up the house so!" Cleanliness is then more preferable than kindliness. A child with a proclivity toward cruelty is more preferable than a child with kindly instincts, and it would seem such a mother would prefer to have her child grow to become a murderer rather than a humanitarian. But no. It is rather thoughtlessness on her part, and a lack of proper discrimination between cause and effect.

We have raised innumerable canary birds and have had the satisfaction of disposing of them to people whose children now display a remarkable aptitude toward the study of ornithology. To my knowledge, there has not been one known to show a disposition in the way of cruelty to any living thing; on the contrary, they perform the part of "knights errant" to the captives.

We extend our pity toward those little children whose stifled love and energy must have some outlet, and who seemingly take revenge for the perversity of parental discipline by scaling trees and robbing birds of their young. We cannot blame the power which would have them exert these animalistic tendencies; it is but the natural outcome of their mistaken home training.

Versailles, Ind.

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Prize Article.

Useful Plants.

WILBUR LINCOLN.

There grow, by every country roadside, on the hills and in the meadows, in open fields and boggy swamps, from early spring to late November, plants whose medicinal properties are unknown to the thousands who travel these country ways for pleasure, or in the performance of their daily duties, when a knowledge of the medicinal virtues of these plants would give to many of them relief from the pains of poison from sumac and ivy, and from the bites and stings of flies and insects. These same plants, gathered and dried, are remedies for many of the diseases of the human family.

During the heated months of summer, when the ivy is the most poisonous, the spotted touch-me-not grows by its side, in the boggy meadow, to relieve with its fresh juice the pain of the ivy's poison. So the ginger bush grows side by side with the poison sumac, thus placing in our hands at once the best remedy known to the unlucky victim of this lowland shrub. In early August our meadows give us the thoroughwort and the meadow queen, two well-known kidney remedies, while, at the same time, the snakeroot, hard back and white stickweed grow in our brushy pastures. In the more open fields grow the pennyroyal, the lobelia, the wild raspberry and blackberry, the milkweed, the pleurisy root and the clover. In the woods we find the wild cherry, the roots of the goldthread and the lady's slipper. The chimophila, checkerberry, pyrola, seneca-root, white oak, butternut, walnut and willow are among our woodland remedies. In our meadows we pick for our medicine chest, the arnica, colt's foot, sweet flag, aconite, bloodroot, slippery elm, skunk cabbage, willow and others. In the gardens that were planted by our grandmothers there yet grows the old red rose of the Pilgrims (now being largely transplanted for its beauty and its history). We find a remedy for sore eyes in its blood-red petals.

The red clover has long been known as a protection against the house fly, and the pennyroyal, when bruised between the hands, will, when rubbed on the face, keep the mosquitoes away from the person. The leaves of the red-stem plantain are used for the sore eyes caused by hay fever, while the leaves of the common mullein are very effective in catarrhal troubles. In our ponds we gather the flowers of the white pond lily, and the roots of the pond watch. Our dry pastures give us one of our best remedies for colds and sore throat, in the form of the life everlasting. In late November, in the flowers of the witch hazel, we get a stronger extract than the stores furnish. We must not forget the hoarhound, gentian, marshmallow, wild cherry, smartweed, tansy (the green leaves will drive ants away from the pantry), the wart grass (rub on warts), the dandelion, Solomon's seal, Indian turnip, pig weed, sarsaparilla, wormwood and old man. Gathered at their proper season and used as they should be, they will save many a doctor's bill.

Accord, Mass.

All in a Lifetime.—Part 10.

VELMA CALDWELL MELVILLE.

Patty Pearl did not tarry long in her room, but throwing a shawl about her, stole quietly down a long hall, up a short flight of stairs, across another hall and into a small south room filled with odds and ends left from old plantation days. She had been there several times before to read or write. It was more cheerful than her own room and here she was reasonably sure no one would find her; but, "to make assurance doubly sure," she slipped the rusty old bolt into its socket, a feat that required some strength. Then she knelt by a broken chair and again and again read the letter. What had ailed him besides liver trouble, she kept asking herself, and what had Jeff said to Aunt Ruth? What, indeed? She must know, she must! For the time being, she let her husband slip out of mind. Now that Jeff was dead it could be no harm to think of him; but as she recalled his looks, manner and words, it seemed to her she must die, too. Life had no charm. She knew now how much she had counted on seeing him again; how little she had in reality dropped him out of her thought. O, it was dreadful! The loss, the homesick feeling for the past, the utter abhorrence of the present, all this and much more rushed in upon her soul, until, in a frenzy of feeling, she arose and frantically paced the floor. If she could only cry—but tears were denied her. Her eyeballs were burning, her lids smarting, her lips dry and parched. How long she took in spending herself she never knew, but at last, completely exhausted, she drew her shawl about her and nestled down on a mothy pile of old carpet and clothing and that was the last she knew until she awoke with a start to find the room in complete darkness. At first she could not remember where she was or what had happened, but as it gradually came back to her, she sprang up in terror and alarm. What would her husband and the rest think had become of her, and how could she explain it?

Groping about the walls she finally came to the door, grasped the knob of the bolt and pulled, but pulled in vain. Again and again she tried before she even admitted to herself that she was a prisoner.

"Worse and worse!" she groaned.

Then she tried to call or make some sound to attract attention, but only the dreary echoes mocked and frightened her. She might as well be in the midst of the Sahara as here for all the human companionship there seemed to be. Where were they all? Could it be that her husband would go to their room, find her missing and just quietly go to bed? He must be very angry with her. Oh, how terribly alone and forsaken she felt! But somehow it was not the death of the dead so much as the desertion of the living that troubled her now. She longed for the doctor's presence for perhaps the first time in her life. How still the house was, and she was afraid in the dilapidated old ruin even at noontide. Something in the room stirred and then ran. It was a mouse, of course, but she was a woman, and what woman likes to be alone in a room with a mouse, even in daylight? Then all was still. She could hear her heart beats. She was so desperately thirsty, too. Once more she called, but it was too frightful. Back she groped until she found her comfortless couch. All the stories she had ever heard of imprisoned women came to mind, but then she was sure she could effect her freedom if it ever came light. But by and by all her misery was swallowed up in the one thought of her husband's cold neglect. For the first time in her life she reviewed his conduct toward her from that mid-summer picnic. He had certainly acted as if he loved her; if there had been aught else in his conduct she knew it came from jealousy. And then there was her illness and all her aunt had told her of his devotion. She tried to recall it all now, though heretofore it had bored her exceedingly to hear about it.

Only the other day he had plead with her for an avowal of her absolute love. And now he had ceased to love her—there could be but the one construction put on the present condition of things.

Amid all the misery she was conscious of surprise that she cared whether he loved her or not. She tried to be angry, but the other feeling was the dominant one. Worn out at last, she fell asleep again, and the dim light of early morning was at the window when she awoke. Again she essayed the bolt, but it was immovable. She tried to pound it back with a bit of broken table leg. No use! Then she attempted to open the window, but that, too, seemed to be in the conspiracy against her. She could break it out, of course, but as it was at the back of the house overlooking a deserted and overgrown tangle of weeds and brush, that had once been a flower garden, the chances of attracting notice from there were extremely small. The feverish thirst was growing upon her and the strain on her nervous system becoming intolerable. She made all the noise she could, but not a sound about the premises rewarded her efforts. And so the hours dragged wearily by until the sun rode high in the heavens.

Preternaturally alert were all her senses, else she had not heard the baying of a hound in the distance.

"One of those horrid bloodhounds!" she said with a shudder, "and yet old Judge isn't so bad. Poor old Judge, I wonder if I'll ever see you again, you or my husband or anyone."

Already the fear was entering her mind that here she would slowly die. She wondered how her husband would feel when, sometime—perhaps long years hence, when he would have married again—her bleaching bones would be found. His ring on her finger would establish her identity. She did not like the thought that he would marry again. How plainly all his tenderness and love came before her here in her dingy prison room. Only the day before she had longed to die and go to Jeff, now she inclined to live and stay with Dr. Glen.

There was Judge's baying again; she felt it was he, as there were no other hounds in the immediate neighborhood, but he was nearly blind and had quite lost his scent, they said. Most of the time he lay by his owner's kitchen fire or followed him as he limped about the yard, for, like his dog, Colonel Trainer had seen his best days.

For want of more congenial companionship, Patty Pearl had petted the old dog until he sometimes joined her in her short rambles.

Again and again the deep baying. Suddenly a thought occurred to her that sent her flying to the window, table leg in hand. It took but a moment to shatter a pane of glass, then she gave two or three loud, shrill whistles. (Patty Pearl numbered whistling among her accomplishments and had taught Judge to come at her call.) A minute she listened; all was still. Once more they sounded forth and once more she waited.

Meanwhile where was Dr. Glen?

(To be continued.)

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In the Kitchen.

Mrs. R. E. Merryman, Melrose, Fla., writes: All experienced housekeepers have their favorite ways of putting up fruits, but the fact remains that all housekeepers are not experienced, and the new ones will be glad to learn the best ways of doing things about the house, especially about cooking. Perhaps in no other line of kitchen work is there so much need for instruction as in the putting up of fruits. As a general thing the new housekeeper has new cans, covers and rubbers to work with, but if this is not the case, it will be necessary to thoroughly cleanse those she has before beginning with the fruit. This can be done by washing in Pearline suds and rinsing well. If there is reason to suppose that some of the cans have held vinegar or fermented fruit, it will be necessary to put them in a kettle of cold water to which has been added one teaspoonful of Pearline for each pailful of water, bring to a boil and let boil one-half hour. Let them cool in the water; then take out and rinse. Be sure to use only new rubbers. Put a little water—a half canful is best—in each can, put on rubber and cover, then stand, top down, on the table awhile. If they do not leak out any water they are safe to put fruit in. If some of them leak, examine the covers and if the edges are turned up place on a level surface—an iron wedge is good—and gently tap the bad edges with a small hammer until they are even, then try on the can again.

One cupful of sugar to a quart can of fruit is about right, although very acid fruit may need more. Blueberries are best put up without any sugar. Pears, plums and peaches should have enough water to cover. Strawberries and such juicy fruits need only enough to dissolve the sugar.

There is no need of heating the cans or wrapping them with cloths before putting in the fruit. Simply fold a clean cloth four thicknesses, wring from cold water and lay in a pan, then place the can on it and put in the fruit. Put in a spoonful or two first, then wait a few seconds until the sides of the glass show the white steam from the fruit, and fill up quickly until level full, then screw on the top. Use a cloth to hold the can and use a wrench for the cover if necessary. A woman of ordinary strength can make the covers tight enough with her hands and avoid the danger of screwing the tops of the cans off. Be careful not to let a draught of air strike the cans when filling. It is best to rinse the can with cold water just before putting in the fruit. When the cans are taken from the wet cloth they should be put on a dry one, placed on a shelf or table away from draughts. The next day wipe the outside of the cans with a wet cloth to remove any fruit juice, then label with the date and any desired mention about the fruit. When trying several ways of preparing the fruit it is very convenient to be able to tell by a glance at the label just which preparation a can contains. The date also is desirable if the fruit closet contains, as mine sometimes does, the result of several years canning.

Grape juice is very nice and can be kept as well as fruit if one is careful in its preparation. It should be canned with as little cooking as possible to retain the fresh taste of the fruit. This is my method and I am sure nothing could be nicer in this line than the can I opened yesterday, whose label bore the date "August, 1901." The grapes, fully ripe, are well mashed and the juice pressed out. It is then strained through a flannel jelly bag without pressure, heated almost to the boiling point and allowed to stay at that heat a short time. Be sure it is just on the point of boiling, then can quickly in pint fruit cans. It could be put in bottles, but I have never tried it, as I consider the cans the safer and more convenient. A fine piece of cloth laid over the top of the can funnel when pouring in the juice will remove any settlings in the juice, but this is seldom necessary if the first straining was properly done.

Kelsey plums, strawberries and other juicy fruits are very nice sprinkled with a generous coating of sugar then set in a cool oven or on the stove shelf until the sugar melts and the fruit softens, then dried in the sun. Slice plums, etc., before treating thus. When dried enough, pack in cans, tightly, and pour over a little of the syrup.

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Among the Flowers.

WM. H. WHEELER.

A correspondent of the H. C., some time since, advocated seeking out wild flowers in one's own vicinity and transferring them to the flower garden. Here in Western Oregon flowers and shrubs for a most beautiful display could be selected from the woods and prairies. The beautiful mock orange is abundant on the lower portion of the hills and on the bottom lands, while higher up grows the gorgeous rhododendron, neighbor to a shrub whose name I know not, but which, from its misty masses of white, feathery bloom, is locally called "sea foam." In its season the dogwood displays its snowy blossoms against the dark green background of the Douglas spruce forest, and early in spring the flowering currant shows its brilliant colors. Digitalis, with its glowing spikes from four to six feet tall, in all colors, abounds. I shall never forget a hillside clothed in purple digitalis beside which the train stopped to take on wood on my first day in Oregon. Many passengers left the cars and returned with great armfuls of blooms. White trilliums and many other small flowers, which in my ignorance of botany and floral nomenclature I am unable to name, abound in their season, and armfuls of delicate maiden hair fern can always be gathered in an hour's walk in the dark, cool canyons which scallop the foothills. And yet some people, claiming to represent the taste and sentiment of Oregon, have chosen and proclaimed far and wide as our State flower a little ugly weed with thorny leaves, unattractive blossoms and fruit so keenly sour that there is no record of anybody ever having tasted it twice—the Oregon grape.

Greenleaf, Ore.

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Our Book Table.

If you like a good, old-fashioned tale of love and Indian warfare, just try "The Colonel's Daughter, or, Winning His Spurs," by General Charles King, a Wisconsin writer of many books. The scene is chiefly laid at an army post "out West;" the heroine is pretty Grace Pelham, the good old General's daughter; the hero is Jack Truscott, and every woman of us, married or single, will be in love with him from the first, because of his veneration for our sex. Even the woman he most cordially disliked was ever courteously spoken of, and even under the most unjust censure he was a true gentleman. And the way he held his temper under provocation, and always managed to answer calmly, is a thing to excite wonder.

There are various characters introduced; some amusing; some pathetic; some irritating. To this last class belongs Mrs. Gen. Pelham, who figures as a match-making mamma and an unscrupulous foe to everybody who stands in the way of her wishes, not at all excepting husband and daughter. In this story is shown up the harm and misery that may come from jumping at conclusions from mere appearances, and from gossip. Of course all is well that ends well, and General King is too diplomatic to spoil a good story by not having it turn out all right. This, or any book, may be had of The Farmer Co., Philadelphia. If not in stock they will at once see to getting it.

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Topic No. 591, Sept. 26.—*How do You Get Rid of or Prevent Broom Sedge in Pastures?*

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 593, Oct. 10.—*Have You Tried Any of the New Irish Potatoes Which Have Been Introduced? If so Give Your Experience with Them as to Yield, Earliness and Quality.*

Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 589—Where Oats are Grown Simply for Feeding on the Farm, is it Better to Thresh or Feed in the Sheaf?

William C. Aiken, 2807 Hoover St., Los Angeles, Cal.—Where oats are grown simply for feeding on the farm, we should feed in the sheaf. We would, however, handle the oat crop as it is largely done throughout the West, not cut for the grain, but to make a first quality hay, with more goodness in the straw and nearly as much in the grain. All through this semi-arid region where timothy, the clovers and other grasses do not thrive, the main dependence for hay is upon the different grains, particularly barley, wheat and oats cut when in the milk or dough and thoroughly cured. Thousands of tons of wild oats are annually cut for hay. We think this hay with alfalfa hay for cattle, sheep and hogs, cannot be equalled for horses, the feeding values of which are very high.

George S. Davis, Box 96, Northwood, N. H.—If sheaf oats are to be fed out on the farm, it would be better to thresh them and feed straw and grain separately, because one could store the grain away from rats and mice, which would otherwise ruin the oats. But I have an altogether different way of raising oats which is better for the land and the stock, the only fault being there will be no bedding, as it is eaten up clean. Prepare the land and fertilizer as for oats, then sow two bushels Canada field peas to the acre, cover them 3 or 4 inches, then sow on one bushel of oats and harrow in lightly, then sow 15 pounds of clover seed and one peck of timothy and brush and roll. I have never failed in this way to get a good to heavy crop of nitrogenous fodder, heartily relished by cows, young cattle and horses, makes growth and milk, and makes horses smooth and healthy with less grain than usual. Cut with the mower when pods are forming on peas, before there is any grain, making oats and pea hay the best of all. I never fail to get a good catch of clover, even when others have none. I think this plan will work anywhere, if not too warm for the Canada peas. They grow in about the same temperature as the garden peas.

Edwin Hunt, Box 53, McBrides, Mich.—Thresh oats, by all means. If left in the straw, in the mow or stack, the rats will consume a large amount and make very filthy work of the rest. If fed unthreshed in sufficient quantities to make a good grain ration a good deal of the straw will be wasted, and many times it is desirable to mix with other grain and grind to get the best results from both. Even when fed alone and unground a horse seems to enjoy a feed of oats better than almost anything else, so I prefer to thresh them.

John W. Sparkman, Middle Fork, Tenn.—I find it best to cut the oats before they are too ripe, and let them cure a day or two before binding. In feeding cut very short and feed in a box or trough so deep that the horses will not throw them out while eating. Fed in this way there will be very little waste, which may be thrown out for bedding. If fed in the sheaf, a great deal, often half, of the straw is thrown out and ruined by trampling under foot, and when mixed with the manure makes it difficult to handle.

W. H. Black, Flora Dale, Pa.—Anticipating a shortage in hay this season we fed green oats to the cattle and a half ration to the horses from the time the heads began to shoot until the straw began to color, when the cattle no longer seemed to care for it and the cows began to fall off in milk. We found it a good green food, and by its use saved a great deal of grass for hay. As there is practically no grain for horse feed in our local market just now we have been compelled to feed a little sheaf oats to the team, but it seems to be a careless, wasteful and slovenly method of feeding and only excusable under the circumstances. Whatever the feeding tables may show the experience of farmers leads them to believe that oats straw is one of the poorest, if not the poorest, feeding roughage on the farm, even when in good condition, which with us it rarely is. It seems to be poor food for working horses. It is liable to be rusty, is usually a little musty under the bands when cut with the binder and mowed without being cut open, and is always rough and harsh and therefore unpalatable. Our horses eat the heads and a part of the tops, but the most of it is dragged under foot. There is probably enough waste of grain to pay the thresher's bill. An occasional feed of oats is relished as a change by stock in winter, but should never be fed in racks, as the chaff is liable to get into the eyes of stock and if not attended to will cause blindness. Many years ago, in a season of scarcity of forage, I have known farmers to tread straw on the barn floor with horses after threshing, to make it more palatable, and then I am told the stock would eat nearly all of it. With us oat straw is used chiefly for litter, and is not considered very good for that. One littering with oat straw will give hogs an attack of mange.

John D. Smith, Mackinaw, Ill.—Before the self binder came in use we fed a good deal of oats in the sheaf, especially to horses in the winter time. We usually cut oats for feeding when half ripe and let them lie in bundles to cure a day or so before binding and shocking. When prepared that way, without rain, and stacked, they would keep bright and clean of dust, and would make excellent feeding, better than to thresh them. But since we use the self binder we have ceased feeding oats in the sheaf because the straw is not in perfect condition to feed until threshed and then liable to be too dusty to feed to horses. On account of dust and half spoiled straw very little if any oats are fed in the sheaf any more. Consequently it is better to thresh out oats before feeding and then some ought to be run through a fanning machine before they are fit for horses to eat.

A. Grell, Michigan, N. Dak.—I have fed considerable sheaf oats these last eight or nine years, and think the practice has everything in its favor. The thresher bill (8c.) and toll for grinding (4c. per bushel) is saved to start with. Next, a bushel of oats will go further if in a bundle than if threshed, because a horse will have to masticate it thoroughly. There is another saving in hay and if the straw is free from rust and cut a little on the green side, no hay will be needed. Feed oats in manger with tight bottom and shake up well so as to get grain and straw mixed, otherwise horses will chew grain ends into wads. If there is too much straw in proportion to the grain I cut off butt end with a hay knife. If straw is rusty I cut sheaf at band, and if any grain is left in butt end I throw it into the yard and have the cattle pick it out. To have the team make a quick meal at noon I just cut top end off the sheaf and leave the balance for night. The best way to feed the stuff is to cut it in lengths about six inches. I have a large box with two boards nailed on top at one end about half an inch apart and place bundle to be cut across the boards and cut with a hay knife, working knife between the boards, which gives a clean cut. Before I start to feed any amount of unthreshed oats I thresh out a few average bundles to find out how much grain there is in them, so as to know how much to feed of it and how much, if any, of the butts ought to be thrown away.

A. J. Umholtz, Tum, Ark.—My experience with oats grown to feed on the farm is that it is best to cut it for hay when it begins to color and turn yellow, when most of the seed is in the milk or dough. The seeds, by the time it is cured, will be nearly as valuable as when fully ripe when cut, and the oat straw will be such good hay that the horses will eat it all up, and not eat only the heads off and waste a great deal, as they generally do when fed in the sheaf. Also when stacked or housed in barn in sheaf the mice and rats are so bad that they destroy a large portion of it. But if put up in the form of hay it is disturbed but little by mice or rats. Also, if the oats are cut with the cradle by hand, as it is in this community, it can be cut faster when cut for hay and not bound in sheaves, by throwing two swaths together, and when cured put in heaps with fork and hand rake. It costs less and can be saved better, and there is not so much left in the field.

J. F. Beiler, Ronks, Pa.—I have 7 acres in oats I sowed for hay, and do not intend to thresh them. Stock like it better than rye. Cut oats nearly ripe, with straw green. I want to follow with millet and can save time by using the mower. I prefer to feed them in this way, as the straw is better, and young stock and horses when not working hard can be kept well without grain.

S. S. Karn, North Manchester, Ind.—No method is best always and in every condition. We would thresh on account of storing and ease in handling, and when fed to cows we want them ground with corn to make a better balanced ration. When fed in sheaf in quantity for a full feed there is an unavoidable waste of grain. More than nine-tenths of the oats grown here are threshed.

J. S. Barb, Spokare, O.—I think it better to thresh the oats as we will then know the amount we are feeding. Kept in the sheaf the rats and mice will destroy much of the crop. The straw is good feed if well cared for.

E. L. Pittman, Poindexter, Ark. — Here, where the binder has not been introduced, oats are raised for feed and fed in the sheaf. I often cut them with the mower and use as hay, as it is faster than the old cradle, and I find that horses and mules eat them fully as well. Oats fail here more frequently than they succeed and they are grown less than formerly. If the cause of failure is not found oats will soon be a thing of the past here. [Winter oats, sown in early September ought to do well with you. Early sowing in the fall is important. Spring sown oats seldom amount to much in the South.—ED.]

C. W Kellogg, Bedford, O.—If it was not for the mice and rats making havoc of the grain and fouling the straw with litter, they could be kept for feeding in the sheaf. So I find threshing the better way. All farmers here thresh their oats soon after they are secured in the barn. Some farmers thresh right from the field, and some stack the grain for lack of barn room. The custom of most farmers is to haul to the barn and thresh and use the straw for feeding.

Mrs. A. A. Watkins, Manson, N. C.—We prefer to feed oats in the sheaf, cutting them up and stirring the heads through the straw. It seems to make horses dull to eat clean oats. They are so fond of them that they bolt them like a child eating pie. When they are cut up and mixed in the straw it takes them longer to eat them. Oats are fine spring feed, but when horses are working hard in summer we prefer well cured fodder and pea vine hay to oats, and have never seen any grain that agrees with our stock at that time as well as corn. Very few people here ever thresh oats except for seed. [Corn may keep your horses fat, but fat is not what we want for hard work. Corn is better for cold weather as part of a ration. Pea vine hay and oats are better for hard working horses than too much corn.—ED.]

Mrs. H. W. Wallace, Newport, Ky.—We prefer to stack the oats and feed them in the sheaf, as it saves the cost of threshing, which is considerable. Oats fed in the sheaf are an economical food. To feed them right a good cutting box is needed. Cut them in 2-inch pieces, wet with salt water and feed in a box or trough. The animals will then eat all clean. The oats straw will then take the place of hay. If oats are threshed stock will not eat a great deal of the straw unless it is made palatable, as we do in cutting the sheaf oats. But why not save the expense and feed all together? If they are stacked properly and capped with hay they will keep well, or they can be stored in the barn if there is room.

L. M. Wilder, Hancock, N. H.—Here in South Central New Hampshire farmers seldom ripen oats, but cut them when just past the first of the milk. If left to ripen the rust is apt to spoil the straw as feed. Then, too, we often sow with them the Canada pea and cut them when the pea is just past blooming and the pods are filling, and thus make an excellent feed for sheep, and horses and other stock will not refuse them. Then, too, the rats and mice will not work on them as when left to ripen, while the feeding value is very nearly the same, for what we gain in grain we lose in the value of the straw as feed. I had some threshed and the horses did not care for the straw at all. This season I have just finished putting in the barn several tons of oats cut green to be fed without threshing, and the horses prefer them to the best of hay. We cut early in the afternoon when the weather is bright and clear and the oats are in the last of the milk stage, let them remain over night, and next morning when the dew is dried off stir with the tedder, and cock in the afternoon before dew falls, and cover with caps at night. Next morning, open up to the sun and they will be ready to draw to the barn by 3 P. M. if not too heavy, though there is no iron-clad rule for this. We always want the kernels hard when pinched in the fingers.

SUMMARY.

It seems that most of our friends treat the subject as referring to the ripened oats entirely. We have long since come to the conclusion that where oats are to be fed on the farm only the best way is to treat them as a forage crop and make thus the best hay from them. This is particularly true of the South, where the winter oat crop is grown, for there they can be sown mixed with crimson clover or hairy vetch and thus make the finest of hay and a fairly well balanced ration. Then, too, in the North, from Pennsylvania northward, the crop sown in spring can be associated with the Canada peas and make thus a hay crop fully equal to that grown in the South with the other legumes associated with the oats. As the topic refers entirely to the use of oats as a feed crop on the farm, we are satisfied that this is the best use that can be made of oats. Of course, where one wants oats purely as a grain feed for horses there is no doubt that it is far more economical to thresh them, for ripened oats cannot be protected in the stack from the attacks of mice and rats, and in our experience the farm poultry are as bad on oats stacks as anything else, for they will scratch and pull down the oats faster than the rats. The use, then, which anyone will make of this crop will largely depend on the purpose for which it is grown. For the feeding of horned cattle and sheep we would greatly prefer the hay made from oats in the milk associated with some legume crop, for it is thus the finest of hay and less exhaustive to the land than when grown for grain alone. When the vetch is used we would always cut early, before any seed of the vetch has matured, so as to guard against any trouble in grain crops in winter from this plant. Still, at present prices for winter grain it may be found that the use of the wheat and oats crops both for forage may pay better in many places than the grain. It certainly has proved so with us, for our crop of wheat and vetch hay was worth double what the ripe wheat was worth on the adjoining land. We are somewhat of the opinion of the Maryland man who was told that the vetch might become a troublesome weed. He had found that after cutting a fine crop of vetch from the land in spring he got a very large increase in his corn crop the same season, and he said that any weed that would double his corn crop while giving him a fine crop of hay, was welcome to a place on his farm.

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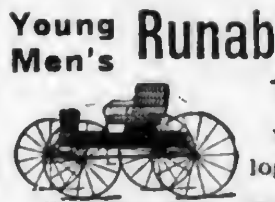

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Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

The Manure Spreader.—I consider the manure spreader a very convenient implement, for we can get out more manure in a day with it, and to better advantage, for we can haul and spread at least as many loads with the spreader as we can haul with a wagon and dump on piles. And then you see we have to send a man around to these heaps to spread them, and the man cannot possibly spread the manure as evenly as the spreader, although he may consume ten times as many hours in doing the work. We can haul out and spread 24 large loads in one day of ten hours, but with the wagon we can only haul 20 large loads and dump the manure off in heaps. You must remember that this is with one man and a team and not two men and a team. In beginning this article I said that it will take a man with fork ten times as long. Besides, what man can tear it apart and get it on as evenly as the spreader? We have a Kemp & Burpee spreader and think there is no other like it. And to those who have no spreader I would say that if they should ever buy one, never mind what other people who have no spreader say about it, for they will more than likely laugh and sneer at you for buying it, but you just go on and get your machine and have your laugh later, when using your spreader and they are going on in the old way with fork and wagon. By utilizing your manure to the best advantage you will not need to buy so much commercial fertilizer.

Woodford, O. M. L. JORDAN.

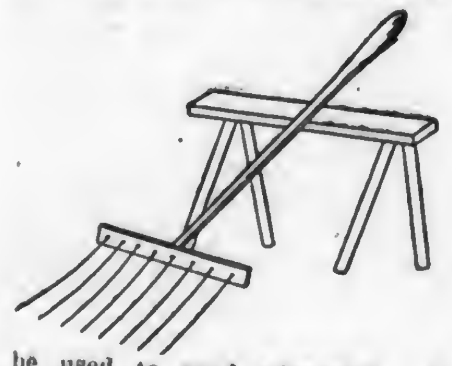
Success with the Weeder.—After reading the numerous accounts of the good work done by the weeder, we purchased a Hallock's Success Weeder last spring and found it to be the best all round tool on the farm and would not part with it for many times its cost if we could not get another. We used it with success on corn, potatoes, beans and nearly everything we raised except cabbage. It does the work quickly and efficiently if done at the right time. Some use it on their oats after they are up to a nice height and report splendid returns from doing so. We did not try it, but expect to and will report later in the season. We always considered the drag a good thing to use on corn and potatoes while small, but find the weeder does the work just as well as the drag and it can be continued much longer.

Woodford, O. GLADE YEAGER.

Handy Wood Hauler.—A wood hauler that I have found very useful may be made by sawing two strips of board 1¼x3, and 4½ feet long. Bore a hole in the end of each to put on wheel, which may be made of two pieces of plank sawed to a circle and spiked together. Put on cross-pieces, nail on standards and legs and it is complete. It can be made on a rainy day, of scrap lumber, so there will be no outlay at all. The hauler will last a long time, as I now have one that has been in use nearly two years.

Montmorenci, S. C. ROBT. M. HITT.

Stone Picker.—I send you sketch of a stone picker. Where small stones are very thick upon the ground, the work of removing them can be made easier and more expeditious by using the home-made fork shown in cut. The ends of broken horse-rake teeth can be used to good advantage. Set the teeth an inch and a half apart in a tough hard-wood head, into which you can also insert an old fork handle. The tips of the teeth should turn up a little and should be rounded. This fork can be run under the stones and they can then be thrown into a cart or on a stone boat.

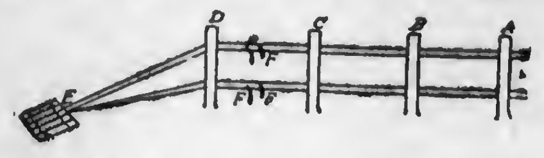


Perrineville, N. J. MRS. J. D. SPRING.

Our Experience with an Incubator.—As this is our first year in artificial hatching and rearing of chickens, I will state the results for the benefit of others who are thinking of trying an incubator. We set the machine in a cellar and ran it a few days empty to make sure that it was in good working order. When the eggs were placed in it we kept watch of the regulator and soon got so we could trim the lamp and keep it within one degree of the required 103 degrees. We turned the eggs twice a day and filled the lamp once a day. We had the following hatches: First time, 32 chicks; second time, 36; third time, 40, it being a 50-egg machine. If we were to buy again would get the 100-egg size, as it is no more work to care for a large machine than a small one. I would be pleased to hear from other users of the small machine.

Chilson, N. Y. S. R. PHILLIPS.

To Stretch Wire for Picket Fence.—To stretch wire for weaving picket fence, set your posts 8 feet apart. Let A B C D be temporary posts; E a harrow; F F F F weights on wire. Drive temporary staples in the posts so the wire will be about 12 inches from bottoms of pickets and 16 inches from tops of same. Run the wire through the staples, two strands at bottom and two



at top, fastening the wire to post A. Set a temporary post (D) about 8 feet from the other end of your fence; place a harrow 15 or 20 feet beyond the temporary post and hitch the ends of the wire to it. If the harrow is not heavy enough place a weight on it and begin weaving pickets in at post A. As you weave the harrow will drag and furnish wire, while the weights, F F F F, will keep the wire tight. In passing posts pull out the temporary staples and weave same as if the post were not there. When you have woven past the post, staple fence to it firmly and permanently. When you have woven to the end of your fence, staple firmly and cut off the wires.

Grandview, Tenn. MRS. J. A. KIRKMAN.

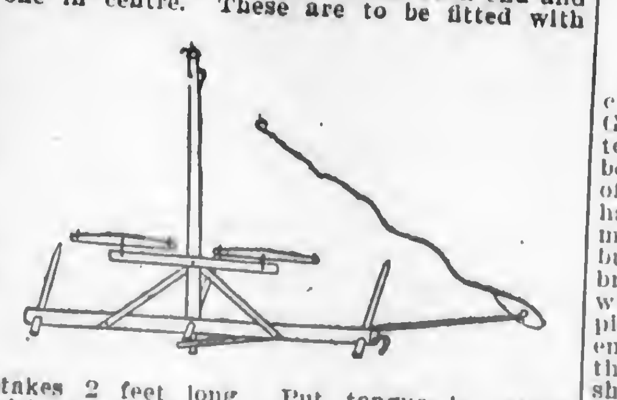
Weight of Implements and Vehicles.—Many people appear to be unaccountably stupid in regard to the most convenient and economical weight of implements and vehicles, especially the weight of one and two-horse vehicles. A large proportion of the 4-wheeled and 2-wheeled vehicles are sufficiently heavy and strong to carry with entire safety three times as much as they usually carry. The 2-wheeled coal and dirt carts are often sufficiently heavy for a single horse without any load upon them. The same principle will hold good in the construction of hand tools. A laborer shoveling earth with a shovel only one pound heavier than a neatly made, light shovel will exert strength to no purpose sufficient to throw up one pound of earth at each shovelful, which would amount to several tons in a short period of time. Plows are often made 15 to 20 pounds heavier than is really necessary to secure the requisite strength of material. Every good plowman knows that the addition of 15 or 20 pounds to the weight of a plow which is already as heavy as it ought to be, will greatly augment the fatigue of the team and render the plowman's work much more laborious than if the implement were as light as plows might be for ordinary work. Farmers should study the strength of materials for the purpose of ascertaining as nearly as practicable how light every implement may be made consistent with strength.

Doudton, Ky. HARRY WALLACE.

The Chain Mower. — Those who own chain gear mowing machines should take the time to see that the chain is not permitted to run too slack. A Johnson chain gear mowing machine of mine bothered me by failing to get up sufficient motion when starting the machine. After taking out one link of the drive chain the motion started as soon as the horses did and I had no further trouble.

Cazenovia, N. Y. LEWIS W. DAVIS.

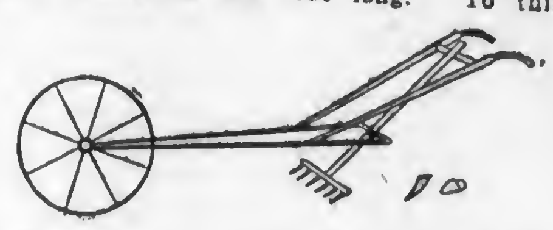
Adjustable Marker.—First get a pole 8 feet 6 inches long and 8 inches in diameter. Put a 2-inch hole 3 inches from each end and one in centre. These are to be fitted with



stakes 2 feet long. Put tongue in centre with braces, as shown. Put bolt through back of tongue for guide to fit on; guide to be 12 feet long. Put horse shoe on each end of main head to hold guide up while turning. Have rope run from end of guide to horse's hame to draw guide and prevent marker from running sidewise. When you get to other end of rows swing guide over to other side and attach rope to other horse's hame, and so on until piece is finished. This marker will make rows 4 feet apart. If you want the rows closer you can move two end stakes in by boring new holes, changing guide to correspond. You will find this a light, handy, adjustable marker. Should you wish rows 2 feet apart put extra stakes between outer and middle ones.

R 42, Milford, Del. W. S. WATKINS.

Wheel Hoe. — Get any light wheel of convenient size; a rear wheel from a baby cab is good. To the axle of the wheel bolt two pieces of 1½x2, three feet long. The bolt is the axle for wheel. Fasten the other ends of the pieces securely to cross-bar of same dimensions one foot long. To this



cross-bar fasten upright at proper angle. Get two old plow handles and fasten them to side pieces, passing rung through hole bored in upright. Bore hole through bottom of upright to fasten attachments and you have a tool that will save and make you money. Any blacksmith can make a small bull-tongue: that old hoe the boys have broken the handle out of will make another, while a half dozen 20-penny nails set in a piece of hickory and bent slightly near the ends will make a third. This last is just the thing to run through the garden after a shower to prevent a crust forming. If you cannot afford an Iron Age or Planet Jr., make one of these and hoeing the garden will be fun for the boys, and yourself as well.

Fairmount, Tenn. W. LANDISS.

Good Old Grandma's Advice

The children are sick—send for grandma! Who is there like her for wisdom and gentleness, and sympathy, since the first baby came? What would we have done without her?

"Cascarets are splendid, my old mother praises them very highly, and says she would never be without them."—Howard W. Wellman, 139 Tremont Street, Fairmount, Ohio.

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—Mrs. John Stone, Put-In-Bay Island, Ohio.

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—Mrs. Harry Wood, Kenneth, Ind.

"I was troubled for a long time with liver complaint and was in such misery that I had to give up work. I took but 4 doses of Cascarets before I was able to go to work again."
—Mrs. Jos. Kresling, 1921 Congress St., St. Louis.

The wisdom of years of experience with her own health, and grandpa's and the children's, and children's children has taught grandma what is good for her and the several generations of family she has looked after. Grandma of today knows and advises that Cascarets Candy Cathartic are the only perfect family medicine for all bowel troubles, children's diseases, diseases of the stomach and liver, sick headaches, billiousness and bad blood.

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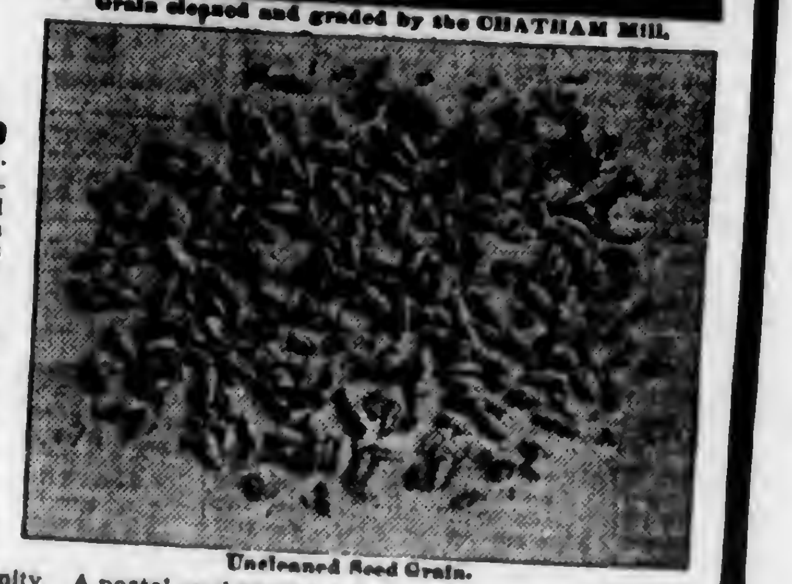

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Some say: "Got 5 cents a bushel more for my wheat."—W. F. Beum, Caldwell, Kas.
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"Cleaned up $157 worth of grass seed running refuse from barn floors and stock mangers through my Chatham."—G. Wodring, So. Charleston, Ohio.
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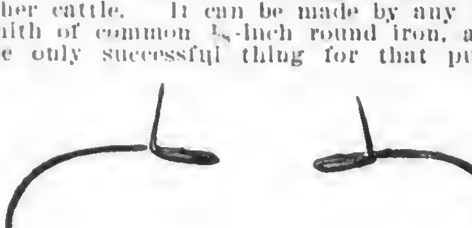
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Curing Self-Sucking Cows. — The illustration shows an instrument to break cows of the habit of sucking themselves, or other cattle. It can be made by any blacksmith of common ¼-inch round iron, and is the only successful thing for that purpose



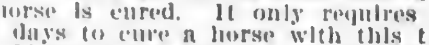
I have yet seen. It is to be put in the nostrils, ring side down towards mouth, and does not hinder the cow from grazing. The two spurs come directly out straight over the bend and are sharpened.

Lisbon Centre, N. Y. F. E. MEEHAN.

Cure for Mange on Horse. — First gather some nice spicebush twigs and steep them in water a couple of hours, and wet the horse's feed up with the tea, and give it to the horse. Skip two feeds and then repeat the dose. Better use bran mash or chop feed. Bathe raw spots with warm water and Castile soap, after that grease over with sweet oil. This should be done once a day until horse is cured. It only requires four or five days to cure a horse with this treatment. If you have any sores on your hands, keep them done up in cloths, then you will not contract blood poison. Remove other horses from barn and keep stable clean and well ventilated. MILFORD JACKSON.

R 2, Garrettsville, O.

For Tying Corn Shocks.—Procure an iron hook with hole at shank, in which to attach rope (see cut); any blacksmith can make it; tie to end of rope, or to a large cord 5½ to 6 feet long. Next get 3 or 4 small iron rings of an inch in diameter, slip



one onto rope near its central portion, and tie knot to hold in position. Fasten the rest on, in the same manner, at intervals of 6 to 8 inches apart. At the other end of rope tie a 2-inch harness ring. You are then ready for business. After setting up, sling hook around shock, pass through end ring, draw tight and hold in place by hooking into one of the smaller central rings, while the shock is being tied. Then remove and treat the other likewise. H. B. MITCHELL.

Athens, Ga.

Canning Beans.—The best way that I have found for preparing beans for winter use is to pick tender beans, break in short pieces, pack in glass jars, cover with water, screw up air-tight. Fill boiler with water, place the jars in and boil three hours. When wanted for use cook as you would fresh beans. They are always ready for use and have the same aroma as when picked off the vines. MRS. ROBT. F. LINVILLE.

2828 *Wrightstown St., Winston-Salem, N.C.*

Lime Water for Breeding Sows.—When breeding sows show nervousness, have a ravenous appetite and root much before farrowing time, there is danger ahead that she will eat her newly born pigs. To prevent her from perpetrating such a horrible act of savage cruelty, put lime water in her rations occasionally or in the drinking water or slop. This is a thoroughly tested remedy.

Jeffersonville, Ill. A. COUGHENOUR.

Stove Polish.—Shave fine one-half bar of good soap, add one and a half pints of rain water, put over the fire and heat until melted. Then add ten cents' worth of plumbago. Stir until this is dissolved, and just before taking from the fire add one tablespoonful of turpentine. The mixture should resemble soft soap, and when cold will be a paste polish. Dip flannel cloth in water and rub on when stove is cold; polish with old papers.

To Sun Quilts. — Fold quilts twice, lengthwise, throw over shoulder, letting half fall over each way, to carry to line, and bring in the same way, folding while on line and throwing over shoulder from line. Four heavy quilts can be carried with ease this way, when the same in the arms would be too much. MRS. J. O. MILLER.

R 6, Nashville, Tenn.

Sewing Hints.—When making children's dresses and underclothes it is a great saving of time to cut out as many garments of the same material at once as possible, as you do not then have to lose time changing the thread and needle, and altering the stitch, as you must do when changing from one material to another. Then when you sew one seam, slip another in close behind it without cutting off the thread. When you have several seams sewn, just snip them apart with the scissors. This saves the machine needle from coming unthreaded often, as it has a trick of doing when you cut your thread at each seam. In sewing on buttons, start through the cloth from the right side, leaving the knot under the button instead of inside the garment to rub on the skin.

MRS. E. B. LANGSLOW.

Box 33, Farmville, Va.

Canning Tomatoes Whole. — To two quarts of water add one gill of salt when boiling; lay in small, solid tomatoes with the skins taken off, heat gradually on a slow fire, put in glass jars carefully, then seal. These tomatoes can be eaten raw or cooked. Do not add salt. The main thing in canning fruit or vegetables is in having good soft rubbers and to have the edges of the fruit jar lids even and smooth. After screwing the lids on tight, press down with the handle of a heavy knife. It is always best to buy the thick rubber bands. When hard they can be made soft by boiling in borax water. After edges are pressed down, do not try to screw the lid any more. A READER.

Home-Made Trap for House Flies.—All housekeepers, especially those living in the South, know what a nuisance the common house fly is, and almost any device that will destroy them is acceptable. The simplest method I know, and one I have used with success, is such that all who wish may possess. Take a common glass tumbler and fill half full with strong soapsuds, then cover with a piece of pasteboard, in the centre of which a hole ¾ of an inch in diameter has been previously cut. Besmear the under side of the pasteboard and around the hole with molasses, condensed milk or any other sweet substance, to attract the flies. Place the covered glass on the kitchen table, or wherever the flies are numerous. They will enter the glass through the hole and as they cannot get out they fall into the soap solution and are drowned. One may place such a trap in any room, or have several at one time. If carefully made no housekeeper need be troubled with house flies.

Ansley, Miss. MRS. CHAS. CAMPBELL.

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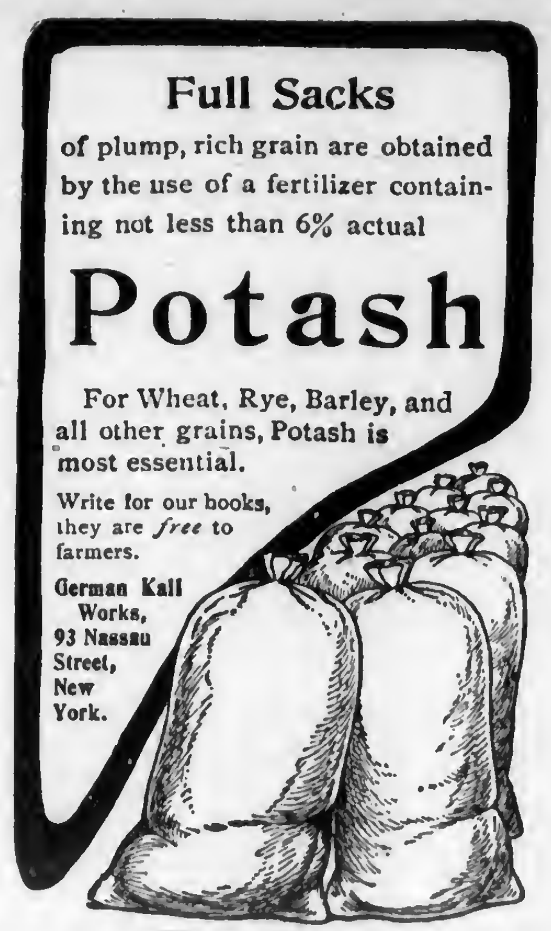

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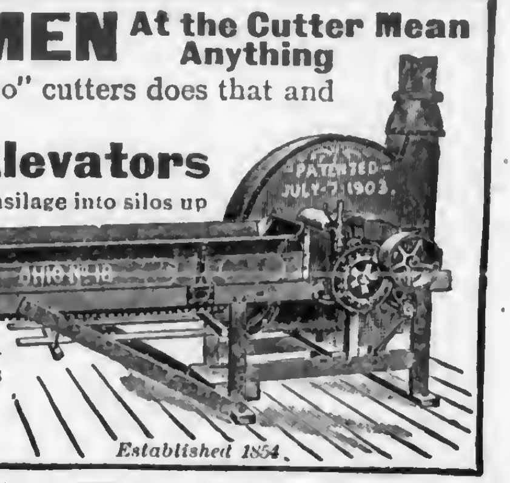

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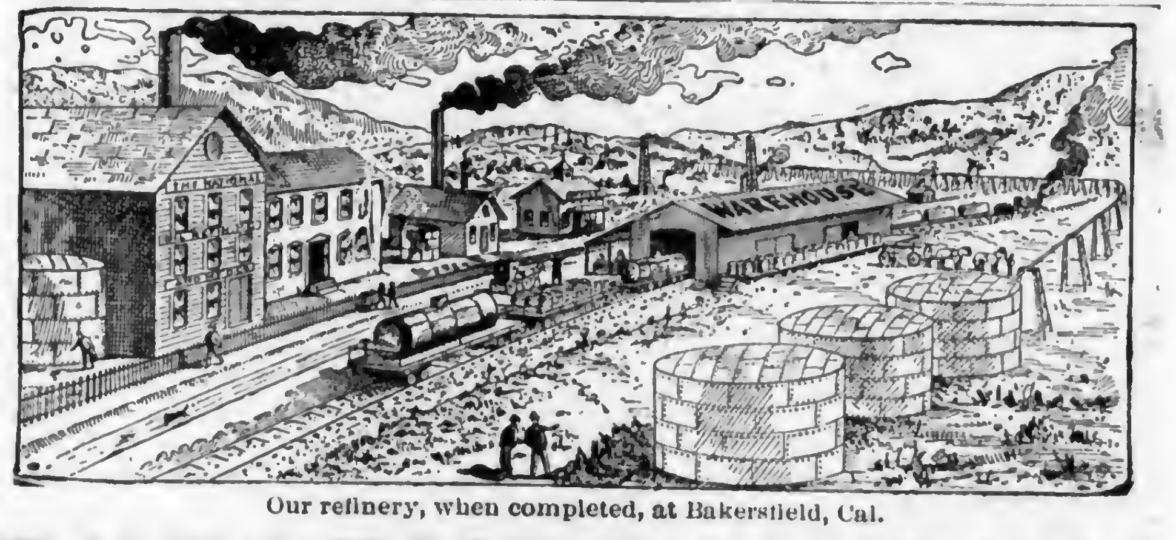

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Our Stock is all treasury stock, and all share alike in dividends. Every stockholder will receive clean-cut business treatment, and their share of the earnings. Men at the head of this enterprise are well known business men, and are the heads of some of the largest business organizations in the United States. A few dollars invested now should make you an income for life.

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Send us 6 yearly subscriptions to The Practicai Farmer at 50 cents each and we will extend your own subscription one year, without cost.

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BY. T. B. TERRY.

This new book, just published for the first time, is made up of Mr. Terry's weekly articles published originally in The Practical Farmer, and revised to date. Their preservation in book form will be appreciated by the admirers of Mr. T. who have read his articles from week to week. Included in the book are his Health Hints, which have elicited so much commendation. Mr. Terry is at his best in his weekly letters, and that best is preserved in "What I Do, See and Hear." 320 pages.

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BY PROF. W. F. MASSEY.

A book for the farm, garden and orchard, written with special reference to the most practical methods of using commercial fertilizers. It is a book for the everyday farmer, a text book on manures and fertilizers, which brings the intricate problems of soil fertilization into the common sense atmosphere of the plain farmer. A complete treatise on how to grow and feed crops and maintain soil fertility. 383 pages.

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This is one of our most popular premiums. We have sent out thousands of these due bills and they have invariably given satisfaction. Each one is good for one dollar's worth of seeds, bulbs or plants, of your own selection, from the catalogue of one of the best known and most reliable seedsmen in the United States. The due bills are good until used.

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Built for the hard work which the farmer finds for a pocket knife to do. Will stand any reasonable amount of wear and tear. Won't cut through an iron bar, but will cut through almost everything else. The blades are guaranteed. It is the best all-around knife we know of.

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A book that every farmer should have because every farmer owns stock of some kind. The book treats of all the domestic farm animals and the diseases to which they are heir. It will save many a costly item during the year, and make a farmer his own veterinary surgeon. Fully illustrated. 384 pages.

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There are short and quick ways of arriving at definite results which the few practice and the many know nothing of. On the farm and in the farm home, time is money, and the author of a short cut to do anything in these lines is a public benefactor. In this book has been gathered 3,500 ways to accomplish work on the farm in the shortest possible time. And so completely indexed that the subjects find themselves. Illustrated. 320 pages.

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Brimful of the news of the world. Gives the reader, three times a week, everything of interest transpiring on the planet. Keeps you abreast of the times and in touch with people and events of the whole world.

How to Make the Garden Pay.

BY T. GREINER.

The standard work on gardening. New, enlarged and revised edition. A life time experience is condensed within this work. An authority on everything pertaining to the garden and garden work. No gardener can afford to be without it, and every farm home should have a copy. Full of practical illustrations to make the text plain. 320 pages.

The P. F. Farmer's Institute.

EDITED BY PROF. W. F. MASSEY.

Another new book first published this fall. This book is filled with discussions of topics pertaining to the farm and household. Farm crops and their management; fruit crops; fertilizers; vegetable crops; household matters. Topics are discussed by practical men and women who tell what they do. 384 pages.

Our Farming.

BY T. B. TERRY.

Never sold for less than $2.00. The most charming, and at the same time, the most practical book on farming ever written. Describes how Mr. Terry brought up a run-down farm and made it one of the most productive in Ohio. Was in debt and how he worked out of it on that "worthless" piece of land. 368 pages, handsomely illustrated.

A Year's Subscription to Hoard's Dairyman.

While the dairy department of The Practical Farmer is up to date, we know that many of its subscribers would like an exclusively dairy paper. Hoard's Dairyman is pre-eminently the leading dairy paper of the country.

Life of McKinley.

One of the most interesting books published. Gives the full story of the late President McKinley's life from the cradle to the grave. Also a life sketch of President Roosevelt. Contains 500 pages, nearly 100 full-page photographs and numerous smaller ones. Size of book 7x9¼ inches. Cloth bound.

Snap Shots at Success and Failure.

EDITED BY GEO. T. PETTIT.

To be issued Dec. 1st, 1903. The successes are all right; but the failures, who likes to tell of them? "Snap Shots" does it, though, and they are told by those who made them. The successes and failures of the farmer are important as guides to those who follow the same calling, showing them how to succeed and how to avoid mistakes. The contributions are all from practical farmers and their wives, from all over the country, and are therefore applicable everywhere. 320 pages.

Dairying for Profit; or, the Poor Man's Cow.

BY MRS. E. M. JONES.

A book written by a practical dairywoman, which contains more practical information on dairy matters than any other book we know of. No dairyman or dairywoman is so well up in his or her business, but they can get help from this useful publication.

First Principles of Agriculture.

BY PROF. E. B. VOORHEES.

Prof. Voorhees is one of the best known and most practical writers on agricultural topics in the country. In this book he gets down to the bed rock of farming and makes clear and applies the basic principles which underlie all successful work on the farm.

The Garden Book.

BY T. GREINER.

One of the best books published in recent years. Not to be confounded with Mr. Greiner's other great work, "How to Make the Garden Pay." Every farmer and gardener should have "The Garden Book." It takes the reader through all the details of the garden work for every month in the year. Copiously illustrated. Published in two volumes. Both will be sent for a club of 12.

Your choice of any of the above 19 premiums for a club of 6 yearly subscriptions to the P. F. and $3 for the same. Any 2 premiums for a club of 12; any 3 for a club of 18; any 4 for a club of 24, etc.

NOW, FRIENDS, WE ASK YOUR HEARTY CO-OPERATION in making our 1903-4 subscription campaign a success. We are greatly indebted to thousands of our friends for their successful efforts in the past to increase the circulation of our paper. Every year they come to our help and send us thousands of new names. To them, and the host of new friends we have made during the past year, we confidently look for further assistance. The Practical Farmer is the

BEST AGRICULTURAL PAPER

published. It should go into thousands of American farm homes where it is now a stranger, and no better means of effecting this desirable end can be used than our subscribers who know of and appreciate its merits. Our paper is going to be a greater force in

AMERICAN AGRICULTURE

than ever before. No expense or pains will be spared to keep it in the front position which it has so long occupied. Our friends can help us by increasing our subscription list, which in turn will increase our advertising patronage and so furnish us the means to still further improve their favorite agricultural journal. A hearty co-operation on the part of every well wisher of The Practical Farmer will make 1904 the most successful year in its history, and we confidently count on that co-operation.

Outside of these clubs the subscription price of The Practical Farmer will be one dollar per year. Any person sending us 50 cents will receive the paper for six months only. Our single subscription price is $1 per annum, no more, no less.

THE FARMER CO., Market and 18th Streets, Philadelphia

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located 2 miles from Berwindale, in Clearfield Co. We have had four weeks of dry weather; a fine shower on the 19th. Oats harvest through now; a fair crop; wheat is a good crop. Prices: Butter, 18c. per lb.; eggs, 20c. per doz.; potatoes, 60c.; apples, 75c. per bu.; meat is high; wages, farm hands, $1.50 per day and board; girls, $2 to $3 per week. The P. F. is welcomed.
IRVIN G. MILES.
Berwindale, Pa., Aug. 31, 1903.

Corn, $3.50; potatoes, $3 per bbl.; no cotton or peanuts on hand; meat, 10 to 15c.; butter, 25c. per lb.; eggs, 12½c. per doz.; chickens, slow sale; cattle and hogs, 5c. per lb., live weight. Weather has been a little dry, but we are having plenty of rain now. Farm work in good shape; have just commenced to pull corn fodder. Farm help not plentiful. Tobacco farmers gloomy over 2½ cent tobacco. All crops about an average. Success to P. F.
L. H. HARRISON.
Plymouth, N. C., Aug. 29, 1903.

Shelby Co. is on the border of the corn belt, the Big 4 R. R. being the northern limit of the so-called "Egypt." This name was given to this South Central Illinois section because farmers from the rich lands just north were compelled by a corn failure one wet season, to buy from their poorer Southern neighbors. It is now, however, merely used as a term of reproach. Corn, our great staple, is variously estimated at one-half to three-quarters crop. Early spring was very wet (5 inches rain in April), followed by long drought, causing clods at planting time, late corn and poor stands. Low temperature nearly all summer has retarded crop still worse, so that an early frost would be ruinous to nearly every corn grower. Oats all threshed; yield 30 to 45 bushels per acre. Little fruit this season; apples fair in some orchards; potatoes and gardens good; hay good. Prices: Corn, 46c.; oats, 28c.; apples, 60c.; potatoes, 75c. per bu.; teachers, $35 to $50; farm hands, $18 to $25 per month; land, $20 to $120 per acre, according to location, timber, improvements, etc. Telephones and interurbans rapidly spreading.
J. F. WILLIAMS.
Findlay, Ill., Aug. 24, 1903.

Located in Northern Campbell Co. Stock hogs are scarce and high in price throughout this section. Stock of all kinds is commanding good prices, and is in fine condition for the market. Pastures are tolerably good; corn will be about 60 per cent. of a crop; tobacco 75 per cent.; early potatoes, 80 per cent.; plums, 80 per cent.; apples, 60 per cent.; peaches, 50 per cent.; pears, 50 per cent.; grapes, 85 per cent.; late cabbage, potatoes, beans, squashes, cucumbers and pumpkins promise a good crop. The following prices prevail: Milch cows, $35 to $60; horses, $25 to $175 each; farm labor, 75c. to $1 per day; eggs, 15c. per doz.; potatoes, 80c. per bu.; hens, 8 to 8½c.; spring chickens, 10 to 11c. per lb.; apples, 75c. per bu.; peaches are higher than for years. Bees have done well throughout this neighborhood, and if no hindrance, will enter the winter with a good supply of food.
H. WALTER WALLACE.
Newport, Ky., Aug. 31, 1903.

Located in southern Indiana county, 17 miles southwest of Indiana (county seat), and two miles from W. P. R. R. Land is rolling; good water; good soil. Mixed farming prevails; cattle, horses, hogs, sheep and poultry are raised; harvesting all done, except corn; about half of fall plowing done; have had very dry weather for about three weeks, and it has hurt the corn considerably. Threshing is in progress; wheat turns out about 15, and oats about 30 bu. per acre. We have Rural Delivery through this country. Prices are: Wheat, 70c.; oats, 55c.; corn, 65c.; potatoes, 65c.; apples, fallen, 50c. per bu.; butter, 20c.; chickens, 12c. per lb.; eggs, 20c. per doz.; climate temperate and healthful; farm hands scarce at $15 to $20 per month. I think the P. F. is a good paper.
R. M. LYTLE.
R 2, Saltsburg, Pa., Aug. 27, 1903.

Located in northern part of Summit Co., O. The dry spell of several weeks past was broken this week, and over 5 inches of rain fell in the last two days. Plowing is in progress; threshing machines busy, showing fair yield in both wheat and oats. Prices: Wheat, 81c.; oats, 39c.; creamery butter, 19c. per lb.; eggs, 20c. per doz. Corn crop not very promising; lots of weedy corn fields; apples promise an abundant crop; peaches not a good crop; plums are a big yield this year and bring 25 to 30c. per peck; tomatoes, 20 to 25c. per ½-bu. bas.
E. K. RICHEY.
R 2, Macedonia, O., Aug. 29, 1903.

Located in the northeastern part of Erath Co. Weather warm; plenty of rain. Fine prospect for cotton and potatoes; fruit good; farmers will make enough corn for their own use, which is appreciated very much, because they have had to buy corn the last two years. Prices: Cows, from $10 to $14 each; bacon, 12½c.; cotton, 11c.; peas, 5c.; butter, 20c. per lb.; eggs, 12½c. per doz.; chickens, hens, $3; fryers, $2.40 per doz. Have had plenty of cantaloupes, but none now. Gardens are being planted for fall. Best wishes to the P. F.
OLLIA E. ATOR.
Lipan, Tex., Aug. 27, 1903.

Located in central eastern third of the State. Greenwood county is noted for its excellent grass and water. It has a large amount of land fenced for pastures. Much of the land being owned by speculators, agents fence these tracts and rent the pasture. Many cattle being shipped into the county for pasturage and prepared for market and shipped direct to market. There have been many sales of land. The pasturage is in excellent condition. Stock in excellent condition; all crops looking fine. In spite of the misfortune which befell parts of Kansas, other parts will do their best to retain the good name of our State by big crops. There has been plenty of rain during the greater part of the year. Old corn is now being sold for 35c. per bu., which holders had expected to get upward of 50c. Wheat a fine crop; much more will be sown. There seems to be plenty of work, and good hands are in demand at good wages, some getting from $20 to $25 per month; girls get from $2 to $3 per week, there being more of a demand than supply. The unusual freeze in April caused many orchards to be without fruit for this year, but they have made a great growth of wood.
V. GRIPLIN.
Virgil, Kan., Aug. 29, 1903.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

For Sale or Exchange. A two-horse Morton tread power in perfect repair, having been used but little. F. W. SMITH, Denton, Mich.

Position Wanted by amiable young man with good habits to work on farm with chance to work into employer. J. H. McGOWAN, Lake Comfort, N. C.

For Sale or Exchange. Scientific corn harvester, has been used two years, good as new. Will exchange for hay tedder or two-horse corn planter. OTTO SMITH, Iris, Ind.

Position Wanted as shipping clerk. 7 years with one firm. Strictly temperate and steady. A 7-year recommend. Address, M. B., Box 98, Montour Falls, New York.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

260 Acre Farm, well watered, fine timber, good orchard, large brick dwelling, barn and outhouses. For further particulars apply to L. H. RIELEY, Lisbon, Bedford Co., Va.

For Sale or Exchange. One thousand Single Comb White Leghorns, Wyckoff & Blanchard strain. Beautiful, early hatched cockerels and pullets, strictly thoroughbred. C. N. REYNOLDS, Canton, Pa.

One Half-Blood and one seven-eighth Guernsey heifer calves; will exchange for full blood Dorset, Lincoln or Shropshire ewes; Durham bull calf or Poland China spring pigs from registered sire and dam. WILL W. FISHER, Watervliet, Mich.

For Sale for $5000, one-half cash, balance one year. 14 acres improved truck farm; 6 room cottage and 4 room house for tenant; one mile from centre of city, on the best macadamized street in the city. Fine view of city and new National Soldiers Home. All kinds of fruits, berries and grapes, will commence bearing next year. Big demand here for early vegetables at good prices. Best location in the South for a practical gardener. For further information write to H. W. PARDUE, Johnson City, Tenn.

SAMSON Galvanized Steel Wind Mills Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

GEM FULL CIRCLE STEEL BALER Lightest, Strongest, Cheapest. GEO. ERTEL CO., QUINCY, ILL.

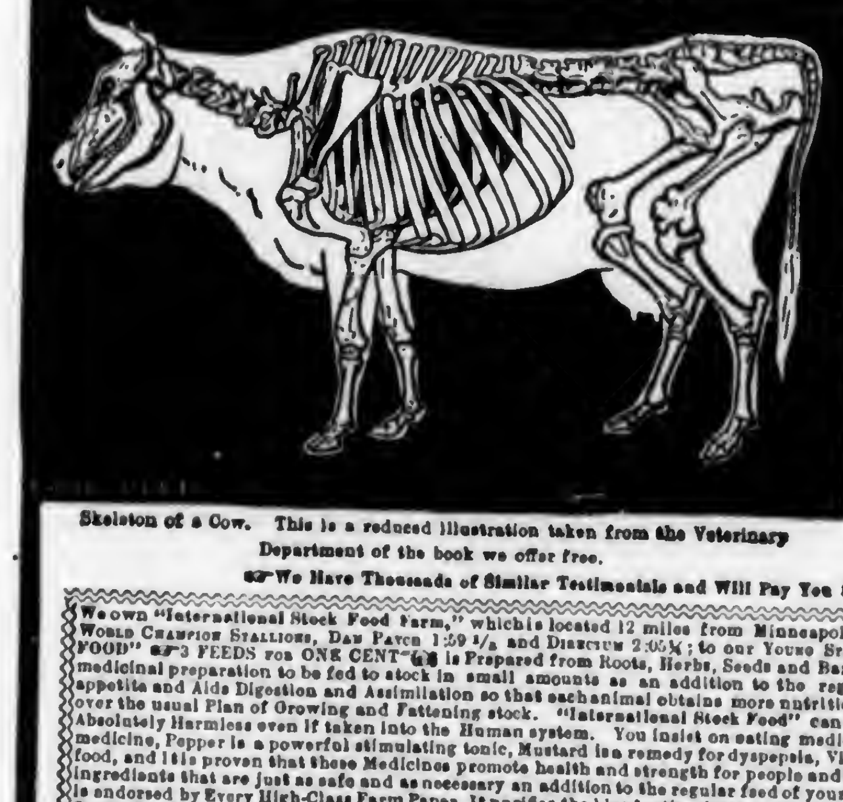
PREPARED ROOFING FELTS. We can save you money on your wants in this line. We offer you Two-Ply Tarred Roofing Felt, 108 square feet to the roll, complete with caps, nails and cement, per roll, $1.15. Three-ply complete, per roll, $1.35. Vulcanite, the highest grade on the market, complete as above. Price per roll, $1.50. We have all kinds of Roofing. Write for Free Catalogue No. 24 on material bought from Sheriffs' and Receivers' Sales. CHICAGO HOUSE WRECKING CO., W. 35th and Iron Streets, Chicago.

Clark's Tools FOR LARGE HAY CROPS.
CLARK'S REVOLVING BUSH PLOW AND HARROW
Cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush or bog land; leaves land true, clean for any crop.
Clark's Dbl. Action Cutaway Harrow Moves 15,000 Tons of Earth in a Day.
CLARK'S 8-foot Smoothing Harrow. Will smooth an acre as true as a mill pond in twenty minutes.
Clark's Rev. Sulky Disk Plow. Made single or double. One or two furrows, 5 to 10 in. deep, 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milkweed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.
Clark's Cider Mill. Horse, hand or steam power. From five gallons to eight barrels. Perfect Grind. Will grind 75 bushels per hour easily. Send for Circulars.
THE CUTAWAY HARROW CO., Higganum, Ct., U. S. A.

YOUR MONEY BACK WITH 25 PER CENT. If You are in Any Way Dissatisfied.
We have represented many mining properties but never represented or recommended one that we did not believe, after careful and thorough investigation, to be good and also to be honestly and capably conducted. Every mining proposition that we have handled has been demonstrated to be a genuine, bona fide, honest property. Some have developed into great money makers and others are on the high road to success.
But until we took hold of Central Gold and Copper in New Mexico, we never found a mining property so thoroughly good and so certain of success that we felt justified, from a business point of view, in saying to purchasers of stock:
"If you do not want this stock after a reasonable time we will take it back from you at a good advance on your purchase price."
You are Secured Against Loss.
This is a wonderful property. We have demonstrated its worth and we stand by it and guarantee it. Stock is now selling very low but will advance rapidly. We give the purchaser of shares in the Central Company a written agreement to take the shares from him next June at his option, at an advance of 25 per cent. over the purchase price.
Write for our book and learn all about the company, which numbers some of Philadelphia's best known business men in its Board of Directors, and all about our guarantee which not only insures you against loss, but secures you a handsome profit if you want to take it. A postal card bearing your name and address will bring you full information. Write today.
M. F. PARRISH & CO., 315 Drexel Building, Philadelphia.

WELL DRILLING Machines Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog. WILLIAMS BROS., Ithaca, N. Y.

GRAIN and FERTILIZER DRILL The YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No complex gearing to get out of order. Boxes are close to ground. Fully Guaranteed. Easily regulates quantity of seed or fertilizer, and sows with regularity. Weight, Only 700 lbs. Agents Wanted. Write for Catalogue. THE HENCH & DROMGOLD CO., Mfrs., York, Pa.



Skeleton of a Cow. This is a reduced illustration taken from the Veterinary Department of the book we offer free.

$28 MADE ME $500
GRAFTON, MASSACHUSETTS.
International Stock Food Co., Minneapolis, Minn.
GENTLEMEN:—Enclosed find check for $28 as payment for "International Stock Food" shipment. Would say that the "International Stock Food" you shipped me improved my stock, both in looks and milk. I had an auction of forty head that brought me quite $4000. Am sure that "International Stock Food" should have the credit for at least $500 of this amount. Please send me another lot.
Yours truly, J. W. BEATTY.
☞We Have Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited.☜
We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all our World Champion Stallions, Dan Patch 1:59¼ and Directum 2:05¼; to our Young Stallions, Brood Mares, Colts, Work Horses, Cattle and Hogs. "INTERNATIONAL STOCK FOOD" ☞3 FEEDS FOR ONE CENT☜ is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite and Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It is Absolutely Harmless even if taken into the Human system. You insist on eating medicinal ingredients with your Own food at every meal. Salt is a stomach tonic and worm medicine, Pepper is a powerful stimulating tonic, Mustard is a remedy for dyspepsia, Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these Medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World. ☞Your Money will be Promptly Refunded in Any case of failure. It will make your Calves or Pigs grow Amazingly and has the largest sale in the World for keeping them healthy. ☞Beware of the many Cheap and Inferior Imitations. No Chemist can separate all the Different powdered Roots, Herbs, Barks and Seeds that we use. Any One claiming to do so Must be an Ignoramus or a Falsifier.
WHAT PEOPLE SAY ABOUT THIS BOOK.
INTERNATIONAL STOCK FOOD CO., EAU CLAIRE, WIS. Dear Sirs:—I received your "International Stock Book" and was more than pleased with it. It is worth more than $10.00 to me. Very truly yours, RICHARD J. MORRISSEY.
INTERNATIONAL STOCK FOOD CO., ODESSA, MO. Dear Sirs:—Your "International Stock Book" duly received, and it is the best thing of its class that I have ever seen. There is a volume of useful articles in it from start to finish. Respectfully, GEO. W. NULL.
A $3000.00 STOCK BOOK FREE
IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.
The Cover of this Book is a Beautiful Live Stock Picture ☞Printed in Six Brilliant Colors. Size of the book is 6¼ by 9¼ inches. It cost us $3000 to have our Artists and Engravers make these Engravings. It describes common Diseases, and tells how to treat them. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains Life Engravings of many very noted Animals, and also testimonials. The Editor Of This Paper Will Tell You That You Ought To Have This Stock Book In Your Library For Reference. ☞It Contains a Finely Illustrated Veterinary Department That Will Save You Hundreds of Dollars.
WE WILL MAIL IT TO YOU ABSOLUTELY FREE, ☞Postage Prepaid.
We Will Pay You $10.00 Cash if book is not as described. Write us at once, letter or postal card, and ANSWER THESE 2 QUESTIONS:
1st.—Name This Paper. 2d.—How Much Stock Have You?
We Employ Over 300 People and have Hundreds of Thousands of Testimonials. Refer to Any Bank in Minneapolis.
INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn., U. S. A.
Largest Stock Food Factory in the World. Capital Paid in, $1,000,000. 600,000 Feet of Space in Our New Factory.

THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Wheat Knowledge from Canada.

My friend, C. A. Zavitz, Director of Experiments at Guelph, Ont., Agricultural College, is not only able to do something worth while, but he has the faculty of sending out bulletins that are full of valuable advice. I do not remember ever seeing so much of value to wheat growers before in a single leaflet as in one that recently came from this college. And it is all plainly and briefly stated, and not scattered along through many pages of words that a farmer has no time to read. Canada must be a paradise for winter wheat growers. The average yield of fourteen varieties of wheat at the college for five years has been between 53 and 63.5 bushels per acre. This is high culture. However, the climate of Ontario is particularly favorable for winter wheat. Such results could hardly be obtained under the same conditions a few hundred miles further south; but improvement can be made everywhere. Some of the knowledge in this leaflet is of such practical value that I am certain our wheat growers everywhere will be glad to hear of it. The average results of six years of experimenting show that large, plump seed yielded 7 bushels, 51 pounds of wheat per acre more than the shrunken seed, and 6 bushels and 33 pounds more than the small, plump seed. Also, sound wheat produced five times as great a yield of both grain and straw as seed which had been broken in the process of threshing. Now, friends, do not sow any wheat this fall, where this reaches you in time, as it will many, that was broken in threshing, or that has small or shrunken grains in it. You can see by the above statements about how you will probably miss it if you do. Again, from sowing one, one and a half, and two bushels of seed wheat per acre for each six years, average yields of 40.2 bushels, 43.3 and 43.9 per acre, respectively, were obtained. There is little land so rich that one bushel is seed enough for an acre. On properly prepared, fertile soil, and where the seed is put in about at the best time, it is not often, in my judgment, that more than one and a half bushels per acre will pay. And now about the time of sowing. At Guelph, tests for nine years show that wheat does best sown the last of August or during the first ten days in September. The highest yield this year came from sowing September 9th. This is not much different from what it is across lake Erie, in Northern Ohio, where the writer lives. I would prefer to take the chances on sowing about the 10th or 15th of September on our soil; on cooler clay, a little earlier. And still our largest crop was grown from sowing September 24th. But conditions were unusually favorable that fall for late growth, and also for stooling out in the spring, and the winter was not a hard one for wheat. Some falls and winters we would surely lose by putting in wheat so late. I know there is sometimes injury to early sown wheat from the Hessian fly; but there is nearly always injury to late sown from winter-killing, if not from the fly. I would sow some very early and trap and plow in the flies, if necessary, and put the main crop in on time anyway, if the weather permitted. And now comes something which I believe to be of considerable importance, as much as the sowing of fine, plump seed. Experiments for seven years show that the heaviest grain and largest yield per acre come from seed that is taken from a crop that is allowed to become fully ripe before it is cut. My friends, this is one secret of our success with seed wheat. For 15 or 20 years we have been sending it to the same localities in Kentucky. They often state that other wheat obtained in this locality does not do as well for them and always insist on having wheat that we grew ourselves. One dealer has already asked for all we have next year. Try good, plump seed, no shrunken or small grains, no cockle and chess, and put it in on time, being sure there is plant food enough in the soil to make a crop, and then do not cut it until it is fully ripe. I would not wait until the grain was ripe enough to shell, but until it was practically all out of the dough state; that is, ripe enough so if you cut a grain in two with your thumb nail it would be dry and floury. Do you have trouble in getting your soil rich enough to grow a large crop? If so, notice the following particularly. Friend Zavitz finds after years of experiments, that field peas used as green manure give 22.1 per cent. more wheat per acre than buckwheat, and clover stubble 20.7 per cent. more than timothy stubble. And Southern friends can count the cow peas in with the clover and field peas of the North. Oftentimes they are far better for them.

How to Keep Gravel Walks and Drives Clean. — Many readers have gravel walks or driveways about their homes, and doubtless they have had trouble with weeds and grass growing up in them. It is a hard and unpleasant job to hoe these off, and besides, it loosens up the surface of the gravel which one likes to keep hard and smooth. Years ago we used to have to hoe over walks several times a year to keep them clean. It was not so when the gravel was first put on, but some way seeds got in there after a time. Weeds would grow seemingly all the better in the hottest and driest weather. I got tired of the job, and of walking on the loosened gravel, and tried putting on poison to kill all weed life, seeds and all. Some of you may remember about it. The effect lasted several years. Last season weeds began to grow some again. This year they were worse. So I have put on another dose of poison. It was done with far less trouble this time. I used blue vitriol dissolved in water, same as before, but a stronger solution was made so I would not have to carry so much water. I reasoned that if I got enough poison on, the first rain would furnish the water to take it into the gravel to the roots of the weeds. We have about 220 feet of walks and drives averaging 6 feet wide. They are used principally as walks, but we drive in on them to bring coal, wood and other supplies to the house. We do not like them very well for walks; they are not real pleasant to walk on, but as we have to drive in occasionally stone or cement would not be practical for us, and we get along with them. The greatest objection is now removed, since we learned how to keep weeds from growing in them, and then where gravel is handy they have the merit of being cheap. Well, we filled a 50-gallon barrel, standing on end and one head out, with water, and hung in a sack with 50 or 60 pounds of vitriol in it. It dissolves more readily put in in that way. Then I sprinkled the entire surface of the walks with the water, after the vitriol was dissolved. It was a pretty strong dose, possibly stronger than was necessary. The last time I put on a weaker solution and more of it, going over some places two or three times before desired results were obtained. A heavy rain came soon after the vitriol was put on this year, and three days later there was not a trace of life left anywhere in our walks. Every green thing was burned up. I suppose all seeds are destroyed also. We bought a barrel of the vitriol years ago for making Bordeaux mixture, at a little over four cents a pound, so the cost was not great. It would not pay just to save a single hoeing, but probably no green thing will show up in those walks for five years at least. So it is cheap in the end. It is no small satisfaction to me to see a walk in which absolutely nothing will grow, a dead walk, for it was a disagreeable job to hoe the gravel surface, packed down hard as it was. Of course it is possible that some spot did not get enough on to make a thorough job and may need dosing a little more, but I was very careful in putting it on. A common garden sprinkling can was used. I see no reason why grass and weeds could not in the same way be kept out of drives and walks that were not graveled. This poison must destroy all life in the soil the same as in gravel. But in the course of time the poison will wash out and in one way or another seeds will get in and growth begin again. You will be careful, of course in handling any poison. Do not sprinkle any beyond the edge of walk or the grass that you want to have grow may be killed.

Health Hints.—The Same Medicine for All.—Help Nature to Cure You.— Letter after letter comes, saying, in substance: "I have never seen anything in 'Health Hints' to just fit my case," and then the writer goes on to tell his, or her, symptoms and troubles, and asks for special directions. The following is condensed from one letter as a sample: "I am now in bed taking the treatment called 'the rest cure,' under the doctor's care. I do not seem to gain very fast. I am troubled with nervousness and valvular disease of the heart and also have a bad liver. Am poor in flesh and consequently suffer from the cold and have to baby myself or I would freeze. I have much pain in my head. Am unable to get to sleep nights for hours. My appetite is good. I have as pure air in the house as there is out of doors. I chew my food thoroughly, as you advise. I have not tried the cold bathing, as I do not think my system strong enough to endure it. This was written while lying on my back. Kindly tell me what to do to get good health again. I have read 'Health Hints' carefully but have seen nothing that hit my case." I have the deepest sympathy for this ailing sister, and for all others who have written about their particular troubles. But, my dear, suffering friends, I cannot tell you exactly what to do, or what the cause of the trouble is in your case. Your letters rarely give all the facts fully enough so one can tell with any certainty what is wrong in your way of living. You must study this out. One thing is certain, it is utterly useless to doctor symptoms. The cause of trouble must be removed. Do you remember my writing that when a wagon gave out you could take it to the shop and have it repaired, but nature only could repair human beings that were ailing in some part? And she will do this, if the matter has not gone too far, when given a fair chance. And while there is life there is hope. The power of nature to make things right in any part of the body is marvelous. Over and over the simple road to health, to assisting nature to build you up, has been given in detail in these columns. No matter what your symptoms are, or where the main trouble is located, live rightly in every respect, and nature will soon get to work building you up and unpleasant or painful symptoms will gradually disappear. I have tried in the simplest and clearest language possible to tell you how to live rightly. Every point has been taken up in detail, such as the breathing of pure air, eating plain, wholesome food, preventing all constipation by means of the food eaten and exercise, loose clothes and full, deep breathing, keeping the skin clean and healthy and one's self busy, etc., etc.

Now a few words in regard to this lady's case. For many a worn, overworked woman total rest for a short time would certainly be a good thing. But I would suggest an entire change of scene, say a visit to friends at a distance, and freedom from usual cares, with something new to occupy the mind. To lie in bed at home long, brooding over one's troubles and surrounded by the old cares is not, in my opinion, the rest cure that such people need. A change is the best rest. Activity of mind and body is nature's law, within our strength. Muscles unused soon weaken, and the same with the brain. Now is there not common sense in this advice? Try it and you will gain faster. Forget all about gaining, or that you are ailing, and all about rest cures, heart troubles, etc. Stir around some, helping your friends, but resting a little when you begin to feel tired. Any good, honorable doctor will tell you this is correct, and perhaps can help you a little with some tonic at the start. As your vitality increases and your general health grows better your heart and liver will share the improvement. Perhaps your liver is "bad," and perhaps it is not, but were I your physician I should be far more apt to inquire first whether you abused the body God gave you, preventing full, natural breathing, by wearing a corset and clothes tight around the waist. If you are lying in bed all the time, taking the "rest cure," and naturally thinking about your bad liver and heart, and how your head aches, no wonder you are nervous and cannot get to sleep before 12 o'clock. I know that matters could be so changed for the better in a few days, by change of scene, light exercise in out of door air, proper food, forgetting your troubles, etc., that your so-called nervousness would vanish and restful sleep would take its place. Now I do not know, but I suspect that your good appetite is somewhat to blame for your condition; that it is abnormal and that you are eating more food than you get the good of and the rest is making you trouble. I would at least eat only plain food and when I was hungry so it tasted good. Yes, you must baby yourself now, but you can make yourself so strong in time, by very gradual but persistent efforts, that you will not need to any longer, and that is the road up to perfect health. Cannot you bathe in water at 90 degrees in a warm room? And do not you suppose that you could endure it if the water was made one degree cooler, say once in three days? Yes, you would never notice it. Now get a thermometer and try it. Changes for the better even should be as gradual as this in your case. You are a young woman, not half as old as the writer. A few years ago I had to do some of my writing for the P. F. while lying on my back, and I had to lie there because I could not sit up. But I got headed rightly at last and gradually made myself about as well as ever. Think how much better your chance, as you are younger. Just determine to win and the results will be certain. You will stumble, of course, at times, but get right up and push on, until royal health comes to you and life becomes only a pleasure. Know no such word as "fail." Then please write to me again and we will together thank God and have a good laugh over that bad liver.

T. B. Terry.

Two Years' Experience With Cow Peas in Latitude 42½ Degrees North.

E. F. DIEHL.

Too frequent clover failures in recent years induced me to try some other members of the legume family to bridge occasional breaks in my rotation by clover failures. A quick grower, furnishing lots of the right kind of humus material to develop and support necessary nitrifying bacteria, and having a large leaf surface to drink in large draughts of atmospheric nitrogen and shade the ground when most needed, and a root system capable of assimilating the inhaled free nitrogen and also reach down and extract from the subsoil the mineral elements of plant food—in fact, a plant food ration balancer as well as an animal food balancer is what I wanted. Something that could be grown profitably as a main crop and also, in an emergency, sandwiched in the rotation as a catch crop. For years I have been growing medium and mammoth red clover — not less than 500 acres within the last 12 years; also tried alsike and crimson clover and alfalfa in a small way, and soon discovered that some one of these clovers was better suited to certain parts of farm and for special purposes, than any of the others, but for some cause—lack of plant food or weather conditions—the clover failures were too frequent under the old cultural methods, hence I wanted something for a partial substitute at least, and wanted the best I could get, and when nature, or rather the all-wise Creator, provides not only a good, but also a necessary thing, man is foolish if he does not appropriate it.

I, in a measure, shared the popular opinion that, while soy beans and cow peas may be good forage and fertilizer plants, they were semi-tropical, and their growth in the North impracticable, except, possibly, for green manuring. After growing them two years—last year 25 acres on fly and winter-killed wheat ground—and testing them in various ways, I believe they head the list of legumes for fertilizers and for rich nitrogenous forage—both stalks and seeds. For some purposes I prefer the soys, especially for hay and seed; their upright growth makes them easier to handle for these purposes. The first year the cow peas did not impress me so favorably, due, principally, to difficulty in handling them for hay or seeds. Last year their true value became more apparent during the extremely hot weather and long-continued drought. I am fully persuaded the shading of ground during this drought period was worth all the cost of growing the cow peas. The vines—many several feet long—hug close to the ground and are thickly studded with leaf stems, averaging about a foot in length, surmounted by large leaves that completely shade the ground. Seed stems are similar, often carrying three pods at extremity, aggregating over 2 feet in length, averaging a dozen seeds per pod. I have found them with 18. Such a field of cow peas with pods turning yellow, framed in living green, with an occasional blossom—similar to the sweet pea, and some as fragrant, too—presents a picture to inspire feelings of adoration in the painter of nature, and a feeling of thankfulness in the farmer that such a valuable legume has been provided for his special benefit, and that some varieties have been so changed by climatic environment to adapt them to practical and profitable growing almost to the British line. While the luxuriant vine and leaf growth, prolific seeding and marked drought-resisting qualities impressed me so favorably, the root system, corresponding to the long vines, was a wonder to me, especially the adhering nodules of nitrifying bacteria, some—without exaggerating—as large as the peas. This latter characteristic magnified the fertilizing value of the cow pea to my mind. I believe every successful grower of cow peas will admit the above to be true, not overdrawn. How is it, Prof. Massey?

There is also a practical, as well as an æsthetical side to the cow pea question. Last year, to economize time, I planted with a check-row corn planter having a drill attachment. I put in drill plates and set gear to drop every 20 inches, averaging about three seeds to a place, of Black Eye and Red Rippers. The seeds of Blacks being larger, had to use smaller size check plates. Planter made rows 3 feet 8 inches apart, yet all the ground was covered with a dense growth of vines. These were planted for seed and given clean culture with weeder, corn plow—2-horse—and finished with 1-horse cultivator when vines began to stretch at the rate of several inches per day. The tug of war came when they were ready to harvest. I had read of pulling the pods in the South, but this was too slow for Northern Yankee boys, and the vertebral exercise too much in one direction. After trying various ways we finally adopted this plan: With sharpened chisel-shaped blades, attached to the ends of handles 3 to 4 feet long—to suit the operator—with one prod of the "spud" all the stems in a hill were usually severed just above or at the ground. Besides the ease of harvesting, all the stalks were left on the ground just as they grew, curing quickly and not damaged by rain. To make the after handling easier and not lose so many pods by tearing the vines apart, one man went ahead of cutters with a sharpened brush scythe, dragging it between the rows with point on ground and heel perpendicular. When dry enough to thresh, drove two wagons to field with tight beds and high side boards, one man pitching vines in wagons and two of us threshed with common forks, 20 bushels from 2 P. M. to evening. Threshed vines were thrown on ground in bunches, and afterwards hauled to barn lot for hogs and cattle to feast on. There are many varieties of cow peas, and the difference in characteristics of growth, color of seed, time of maturity, locality where grown, etc., has led to such a confusing nomenclature that no one knows what a certain name indicates except in his own immediate neighborhood. I believe the Experiment Stations throughout the country should thoroughly test the more valuable kinds by growing, analyzing and feeding, and determine what varieties are best adapted to certain zones or belts of latitude, and give them more comprehensive and uniform names. Part of name might have reference to the zone to which they were best adapted, and part descriptive of some prominent characteristic. This would enable the farmers to avoid annoying disappointments and popularize them quicker, to the great benefit of farmers, but I believe that with due precaution and good judgment, farmers may solve this rather complicated problem themselves.

The two essential precautions in attempting to grow them in the North, are earliness and ample root and top growth. With me one variety of Black Eye was earlier; had meal ground in 110 days from planting. They are fully matured in 90 days. The Red Ripper has finer vines, is a good seeder, a little later, excellent for hay. Blacks, with me, rather late, rank grower, large, meaty pods and seeds. Excellent for hog pasture and fertilizer. No doubt the food (protein) and fertilizing (nitrogen) values vary with the varieties. The following report of analysis made for me was received a few days ago and is worth studying:

Analysis made at Indiana Experiment Station by C. S. Plumb, Director.

	Black Eye cow pea meal	Dwarf soy meal	Dwarf soy hay
Moisture	9.56	7.63	7.14
Ether extract (fat)	2.73	14.55	3.07
Crude protein	24.09	35.96	20.05
Fiber	2.94	4.19	17.50
Ash	4.05	4.52	10.53
Carbohydrates	56.63	33.14	41.71
Albuminoids	22.31	31.03	14.87

The meals were from plantings made last week in May, harvested first week in September and meal ground September 18th. Hay was from an experimental plat, planted July 18th and cut September 16th—in 60 days. Both food and fertilizing values are largely determined by the protein contents, which are comparatively high in above table.

Kosciusko Co., Ind.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Clover and Vetch. — "Subscriber," Windsor, Mo.—"I want to mow a piece of second growth clover for seed. The threshing season will then be over and there are no hullers here. Shall I beat it out or merely scatter the clover over the land? Is the hairy vetch adapted to this latitude?" Better flail the seed out as best you can and then scatter the seed and chaff over the land, sowing it, of course, much more thickly than clean seed. The hairy vetch will thrive anywhere in the United States. If allowed to ripen seed it will re-seed the land and may become a nuisance in winter grain. But where cut for hay as soon as in bloom there will be no difficulty, and on land where no winter grain is to be grown it may be no disadvantage to have re-seeded land, as in a permanent pasture, for instance. But at present prices for wheat a good crop of wheat and vetch hay is worth more than the grain.

Cow Peas in N. Y.—C. Tennies, Salamanca, N. Y., wishes to hear from anyone who has tried cow peas as far north as Cattaraugus Co., N. Y. We have had letters describing success in Michigan, Wisconsin and Southern Vermont, and if any of our New York readers have tried the crop we will be glad to hear from them.

Manuring Land. — "Please write something in regard to the merits and demerits of top manuring versus plowing manure under the ground." We may use this as a topic in the Experience Pool ere long. But here we would say that there may at times be reasons why one method may be the best and at another the other method. In my own experience, especially with garden crops, we have long ago come to the conclusion that the nearer we keep the stable manure to the top of the ground the better. It there acts as a mulch and helps to guard against drought, while the rains carry down the soluble constituents to the roots of the plants in the soil kept more moist by reason of the mulch on the top. But on the farm it is seldom practicable to use the manure in this way. The time to get the manure out on the field is as soon as it is made. After haying, the place for the manure is on the sod to increase the after growth. Then in the fall we would haul it on the sod that is to go in corn the next spring. It will not get away to any serious extent on a clay loam soil lying on top of a sod all winter. Few people fully realize the capacity of a clay soil to hold on to plant food. Experiment has shown that even in a cold Northern climate, where the ground froze hard all winter, the manure spread in the fall on the sod and left there all winter made a heavier crop of corn than where it was plowed under in the fall, or where it was spread in the spring and plowed under when the whole was plowed. We have spread manure on a hillside in the fall on a sod, beginning at the top of the hill and going two-thirds of the way down, supposing that the lower part would get some from the drainage. But the next season there was no effect to be seen three feet below where the manure stopped. If manure is applied to wheat in the fall the place for it is certainly on top of the ground after the wheat is sown, and the manure spreader is the implement to put it there in the right thin spread. The wheat crop will get far more benefit from it there than if plowed under, as it will not only feed the plants but will protect from winter-killing, and will not be in the way to make the soil too loose for the crop below ground. Clover will be helped by a top dressing in spring, and on a farm devoted to general farming there is hardly a day when one can get on the land that there is not a place where a top dressing will pay, and there will be less loss of manure than if it is kept in the yard for a long time.

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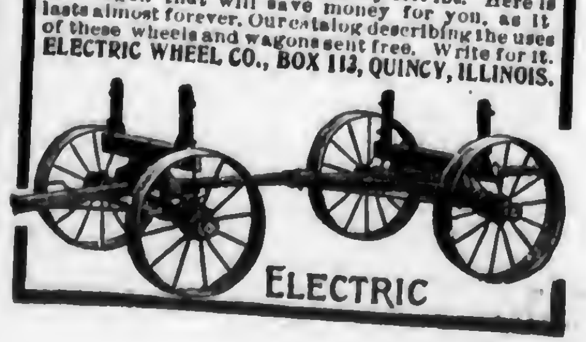

Gardening in the Moon.—Mrs. M. Z. Ritchie, Macedonia, O., who says that she is the correspondent at whom we poked fun some time since in the Pool, about planting cucumbers in the moon and by the Twins, writes a pleasant letter to convince us that she is right. She says that a friend planted some cucumbers in the Virgin and he had lovely vines, with plenty of blooms but nary a cucumber. "You see if he had dwelt in the moon longer, or had made a visit to the moon even at gardening time, he might have had cucumbers instead of blossoms. Now, there is one thing I will ask you to do another spring. Plant a hill of cucumbers in the Virgin and another in the Twins, and see how many you will raise on the first-mentioned hill. Now be honest and do not laugh till you know what you are laughing at. * * * I am not ashamed of my garden, if I have planted it in the moon." Now we are certain that Mrs. Ritchie is a good gardener, and that it does her no harm to believe these things. We have planted cucumbers and other vegetables for many years, and it never occurred to us to note the phase of the moon nor whether the Virgin or the Twins were looking at us. We have never failed to have plenty of cucumbers when we had luxuriant vines and plenty of blooms. We will be glad to try the experiment named if Mrs. Ritchie will tell us just when the Virgin and the Twins are about, for we are not sure that we know anything about them, and, in fact, would hardly recognize them if we met them on the road. But we will continue to put our trust mainly in a good preparation of the soil and good seed from a reliable source and good cultivation. Then if the Virgin does not like cucumbers she need not have them, but we expect to get all we want.

Rhubarb in the South. — A. S. Wheeler, Chapel Hill, N. C. — "I have tried three years to raise rhubarb, but the plants die on attaining a fair size. This year I shaded them by building a board cover. Can rhubarb be grown in Middle North Carolina?" It is possible that on a piece of moist bottom land, not sandy, that rhubarb might be produced in North Carolina. But we must confess that in ordinary garden soil there we never succeeded in growing it. We tried the large roots from the nurseries, and they failed to survive one summer. We tried growing the plants from seed, and one summer finished them, too. We then came to the conclusion that it was hardly worth while to try any more. We have never seen a successful plantation of rhubarb south of Central Virginia, and even there it is not the success that it is further North. If any of our Southern readers have succeeded in growing rhubarb we will be glad to have them tell how they do it. Of course it can be grown in the high and cool mountain country of the South, where the summer climate is similar to that of the North, but in the warmer parts of the country it will not grow. It is not the degree of heat, for there is as much, or more, heat in the Middle States in Summer as in the South, but it is, we think, the intense droughts alternating with deluges of rain that injure the plant. If it could be planted where it could be regularly irrigated we feel sure it would succeed.

Cultivating Cotton.—P. C. Mitchell, Tallula, Miss., writes us 22 pages of letter paper to show that we were wrong in the advice recently given to an inquiry in regard to the cultivation of cotton. Mr. Mitchell, who writes well, and whose letter we would like to print in full, were there room for it, says that he has never known a turning plow to injure cotton. Has he ever tried level, shallow cultivation right alongside and in comparison with the plowing and hilling? The best field of cotton, probably, in this State, and certainly in the section where it is growing, this summer, was planted on the dead level and has been cultivated perfectly level and shallow all the time, and is laid by without the slightest ridge. It is as clean a piece of cotton as one would wish to see. Now it may be that on low lands of great fertility it may often be necessary to use a turning plow in the laying by of cotton as a means of surface drainage, but it is never necessary or desirable to use it on uplands that have been properly broken and worked right from the start. With a slant-tooth harrow and a weeder in the early growth of the crop the hoe can be dispensed with and only used for chopping out to a stand, and all the subsequent cultivation can be done with the cultivator. Mr. Mitchell says that he cannot follow the advice of the P. F. to raise three steers to every bale of cotton, for his 950 acres in cotton take all his time, while some of his neighbors have twice as many acres in cotton. Now he is writing about his cotton in the fertile Delta of the Yazoo, and under very different conditions to those of the great majority of the cotton growers of the South. We are writing usually for those who have thin lands which need improvement. Perhaps what you are doing on the Delta is the best for that section, and we will not attempt to say that you are wrong. But we do know that in the long run, in any section, one-crop planting is not the best. You say that you have to depend on negro labor as one reason for not feeding stock. We use negro labor in other parts of the South, and the Editor of the P. F. has been working negroes, slave and free, all his life, and knows that for the South there is no better labor, and we can do with negro labor any kind of farming we can do with other labor. Mr. M. says that their land does not need the manure, and that with a rotation of corn, peas, and cotton it will keep perennially fertile and productive. But you must remember that your fertile Delta lands are but a small part of the cotton belt. You are fortunate in having such soil. But even there the land will grow grass luxuriantly, and with the long seasons of the South several crops could be cut. We are getting on old, thin upland this season, two crops of hay, one from wheat and vetch and one from peas following the wheat and vetch. The two crops will be worth, on the home market, $75 to $80, and the cost of growing them was but a fraction of the cost of growing cotton. Can you get any more out of cotton, even on your fertile lands, which ought to grow larger crops of hay, than these? You have fine lands for cotton, we know, but we doubt very much if the crop pays better than grass and cattle would pay on the same lands, whether you need the manure or not. You are right in advising the cotton farmers to raise mules in connection with their cotton. A few mares on a cotton plantation would save the expenditure of large sums for mules and they can be raised as cheaply in Mississippi as in Kentucky. Now with Bermuda grass growing knee high, as you say, we believe that it would be far better, even in the Delta, to put less land in cotton and feed more cattle, so that the cities of the South could have home-grown beef, milk and butter. And the negro can be taught to do it there as well as he can be elsewhere. But the curse of the South and the curse of the laborer is the tenant cropping system. Far better work what land you can with hired labor and let the rest go than to demoralize the labor with the cropping system.

Fertilizers and Forage in Tennessee.—James Grizzell, Cross Roads, Tenn.—"I have been studying your book, 'Crop Growing and Crop Feeding,' and am convinced that I do not need a fertilizer containing ammonia, as I am growing luxuriant crops of clover. I have been tempted to tell the readers of the P. F. how I do it, but am fearful that my plans would not succeed on other soils." [Tell us how you do it, by all means, for we have seen how hard it is in Tennessee and elsewhere to get clover, and the P. F. wants experience from all parts of the country.—Ed.] "Where can I get a fertilizer with the most available phosphoric acid? I want to treat clover with this to start a four-year rotation of clover, corn, cow peas and wheat, and then back to clover again. Where can I get the English blue grass seed for a permanent pasture? I have written to Wm. Henry Maule and he has it not. What will it cost to build and equip a silo with 100 tons capacity?" We are glad to know that one Tennessee farmer has learned the value of cow peas in enabling him to grow clover. In all the beautiful limestone valleys of East Tennessee, last spring, we saw hardly any clover at all, and they told us at the Knoxville Convention that it is extremely hard to get a stand of clover where they once grew it easily. So we hope you will tell them how you do it. The grass some call English blue grass is also called Canada blue grass and its botanical name is Poa Compressa. Almost any large seedsman should be able to furnish it, and it is probable that you can get it from George Tait & Sons, Norfolk, Va. You should be able to build a round tub silo holding 100 tons for about $100. Write to Prof. A. M. Soule, Knoxville, Tenn., and he will give you all the information needed for building a silo. Prof. Soule is the Director of your Experiment Station and will take pleasure in helping any Tennessee farmer. The Stations are in every State for the benefit of the farmers, and nothing pleases them more than to be of help to the farmers of their State.

Horse Nettle.—A. G. Miller, Cessna Park, Ill. — "We have a new weed started here, known as the horse nettle or bull nettle. Is there any way to get rid of them or how best to keep them down." The horse nettle, or Solanum Carolinense, is a common and troublesome weed in the South, and we are sorry to learn that it is getting on the Illinois soils. It is one of the hardest weeds to overcome, for, like the Canada thistle, it sprouts from all the roots and digging will only increase it. It is of the same family as the Irish potato, as you will see by the blossoms and the seed balls. Clean cultivation, with smothering crops following, and never allowing any seed balls to ripen, is about the only way to keep it under, for when once in the soil it seems almost impossible to entirely eradicate it.

Wheat and Manure. — Daniel Ott, Somerset Co., Pa.—"Have seed bed well prepared for wheat after oats. Should I spread my manure on this land and harrow it in, or put it on the sod to go in corn next spring? I have 60 to 70 loads of manure that I have collected since spring planting and am always short of manure on my corn and potatoes, as I need 200 and make but 150 with my stock and will have to buy the remainder at 50 cents a ton and haul two miles, and run the risk of weed seed in it, which I dread very much, as my farm is not now infested with carrot, daisies and rag weed and very little plantain. The land for corn is heavy timothy sod on limestone soil." We would prefer to haul that manure at once and spread it on the sod that is to go in corn next spring, and use only acid phosphate on our wheat. Your limestone soil probably grows straw enough, and the manure might make too heavy a straw and cause it to lodge. The sooner you get the manure spread on the sod the better. The clay soil will hold it all right and it will lose far less there than in keeping it in the barnyard. In fact, it will give better returns on the corn than if plowed under at once or applied in the spring. Few farmers realize the capacity of a clay soil to hold on to manure. You are losing more in the barnyard than you will lose all winter on the sod: Try it and see the difference between manure spread on the sod in the fall and that spread in the spring, and let the P. F. readers hear of your experience. Manure two miles away on a good road is cheap at 50 cents a ton, and we would haul all we could at that price and take the risk of the weeds. With plenty of clover and the use of the mower you need not fear the weeds much. It is the men who allow them to seed on the land and who do not appreciate the value of the mower who get infested.

Alfalfa Turning Yellow. — W. E. Stickley, Strasburg, Va.—"What ails my alfalfa? It is three years old and has done well until the second cutting this year. I mowed ten rounds on Saturday and got part of it in. It rained Monday and Tuesday and I did not mow again until Wednesday. Some weeks ago those ten rounds began to turn yellow, and is now very yellow and four to six inches shorter than the remainder of the field. It was just coming into bloom when I began cutting, and that is the time advised by all writers on the crop." It is hard to say what is the cause without an examination. But we would at once run the mower over that yellow part. It may be that your land is not inoculated with the microbes that live on alfalfa roots and the plants are failing by reason of this. We would, after clipping it, scatter a dressing of freshly slaked lime at rate of 20 bushels per acre, and next spring give it a good dressing of acid phosphate and potash. Mixed at rate of five parts of the acid phosphate to one part of the muriate of potash, used at rate of 400 lbs. per acre.

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The Care of Young Heifers.

PROF. A. M. SOULE.

Pedigree and performance have an important part to play in determining the value of a heifer for dairy production. But aside from pedigree there are many other considerations which enter into the development of a profitable cow besides the mere mingling of certain ancestral blood lines of known ability for dairy purposes. Is not the care and treatment of the heifer underestimated sometimes, and is not there danger of overvaluing a pedigree for the high-sounding names it may contain? Do we not frequently fail to give proper attention to the surroundings and training of the heifer from the period of calfhood until she has reached her full development as a cow? There is every reason to believe that such is the case and that the tendency of the times is to lay still greater stress on pedigree and give less and less attention to the careful education of the heifer. Education is regarded as essential in all walks of life. Those who have had experience with animals know that the finest bred Collie dog will not of necessity make a sagacious animal unless his hereditary traits are brought out by painstaking effort. He must add some useful information to his quota of knowledge each day and his education must commence from the days of earliest puppyhood if he is to become as valuable an animal as his owner could wish. If education is essential for the Collie dog it is quite as essential for the dairy heifer, and it is just as important that it should commence when she is young and be constant and unremitting from day to day until the final development of her full powers has been attained. The young heifer should be taken away from the dam when about two days old. Some prefer to take the calf away immediately, but it is better to let it have the colostrum milk at first hand. The principal objection urged against leaving the calf with the dam for two days is that the mother will fret unnecessarily when the calf is removed. It is doubtful if she will fret any more at the end of two days than she would the first day, and the dam can feed the calf better during the first 48 hours of its life with a food better adapted to its needs in every way than any artificial agency. It is very important that the heifer be given a proper start in life, for if the digestion becomes upset during the first day or two of its existence it will take it a long time to get over it, and in many instances it never does recover, and if there is one point above another that is essential in the dairy cow it is the possession of a strong, vigorous and well developed set of digestive organs.

At the end of the second day the calf may be taken away from the dam and it should then receive from 4 to 6 pounds of fresh whole milk as soon as drawn from the cow, twice, or better, three times a day for the first few days. Later the milk may be given in two feeds and the amount increased slightly. No definite rule can be given as to the amount of milk a calf should receive; that will depend on its size and vigor and its individual capacity to assimilate food. It is advisable to feed whole milk for the first three weeks; at the end of that time skimmilk can be substituted for part of the whole milk and the feed should be increased to 10 to 15 pounds of milk twice a day. The skimmilk can be gradually increased and the whole milk decreased so that at the end of six weeks or two months the calf is entirely on skimmilk. If skimmilk is plentiful it may be fed until the end of at least three months. When the calf is about three weeks of age every endeavor should be made to teach it to eat fresh grass, if that is available, and if not, a small amount of clean, well cured hay. It should also be taught to eat some meal. This may consist of bran or oats, or a mixture of bran, oats or corn in equal parts. The meal should be fed dry, being placed in the bottom of a trough so situated that the calf can readily reach it. By licking the meal up dry, which it will quickly learn to do, it is better mixed with the saliva and so there is less danger of producing indigestion.

It is very important to see that the milk fed to the calf during the early part of its life is fresh and fed in clean buckets at about blood heat, that is, 90 to 100 degrees. It is also better, as a rule, to teach the calf to suck by placing the finger in its mouth rather than by the use of nipples or artificial feeders. In the first place, these are comparatively expensive and soon wear out. In the second place, it is very difficult, if not impossible, to properly cleanse them, and especially if the cleansing is left to men who are not very particular it is likely to be neglected, and so germs of one kind and another enter into the calf's stomach and soon one has a well developed case of white scours, for which there does not seem to be any effective remedy. For this reason only a limited amount of meal should be fed at first.

Some people have made the mistake of feeding silage and cottonseed meal to young calves. Both of these are objectionable, the cottonseed meal being entirely too strong and concentrated a food for the delicate digestive system of the young calf, and the silage being sour doubtless tends to produce white scours. For these reasons these foods should not be fed to young calves. The importance of teaching the calf to eat roughness at an early date, and of encouraging its tendency to do so in every possible way, is a matter of more than passing importance. The dairy cow is essentially a machine for the reduction of cheap roughness and so it is necessary that the paunch be developed to the fullest extent so it will be large and roomy and capable of reducing a large amount of roughness.

Another point of more than passing importance is to secure a uniform growth and development of the heifer from the day she is dropped. Many persons seem to think that as the animal is not bringing in money she is not worth feeding, and so she is allowed to hustle for herself, and if she fails in that and becomes stunted and puny it does not seem to count with the average man who forgets that by this treatment he is determining her ability for dairy production and has probably stunted or materially limited the capacity of an animal that under a different system of management would have reached maturity at an earlier date, been a stronger and more vigorous animal throughout her life and thus capable of producing larger quantities of milk and butter. The strongest constitution is found in the animal of the greatest vigor, and hence the necessity of securing a uniform growth in the calf from birth to maturity.

The dairy heifer should be handled constantly. This is essential in order that she may be kept gentle. The so-called "breaking" of a heifer to milk is an evidence of improper management. If she comes in contact with the herdsman often enough and is properly handled she will be so gentle that there will be no trouble about milking her, even for the first time. The necessity of having to tie up a heifer and break her with milk stools, hay forks and other implements of torture, is not only inhuman and nonsensical but a useless waste of energy due to the neglect of the early education and training of the heifer. It is necessary that the udder parts of the heifer be handled from day to day, or as often as possible, so as to induce a flow of blood to that organ and thus develop at the earliest possible date the maternal instinct which is so closely correlated with the capacity to give large yields of milk. The gentle kneading of the udder from day to day is a point of more than passing importance. It does not take long to perform the operation and the benefit of the practice is now well established. The average man says, "I have no time for such things. These are the notions of theorists and as such are not worthy of my attention." Here is where a serious mistake is made. Why should people enter into the breeding and development of a dairy herd if they have not time to pay attention to the fine points; in other words, if they have not time to properly train up and develop their animals so as to bring out the desirable instincts in the most perfect way? The attainment of perfection in the development of the dairy heifer requires a systematic course of treatment, and the man who is not willing to give the necessary time to the education of his animals can not hope for the best results.

It is hard to say what is the best age to breed. This depends a good deal on the size and individual vigor of the animal. The tendency to breed too young is objectionable, as it is likely to permanently stunt the development of the animal before she has reached her full growth, and if there is one thing that is unfortunate it is to impair the constitutional vigor of an animal that is to be the future mother of animals that will be later incorporated in the herd. It would be better to wait a little longer rather than to run any risk in this particular. At the same time the importance of breeding early cannot be estimated too strongly because it develops the maternal instinct at an earlier date. However, the development of the maternal instinct at the expense of vigor can never be reconciled, and if the breeder feels that there is danger of this, it is much better for him to wait until his heifers are a little older. After breeding the heifer should be handled very gently so as to preserve her disposition. She should be fed stimulating foods, though not in excessive quantities, and the greatest care should be taken to maintain the flow of milk throughout the longest period. Every endeavor should be made to have her milk at least 10 to 11 months during the first lactation period, for the habit of the animal is now being established and when once established can seldom if ever be changed. The writer doubts the wisdom of forcing the heifer too strenuously during the first lactation period. He would rather endeavor to have a long period of milk production without trying to force the quantity too high during the first period of lactation. This will give the animal a better chance to fully develop a vigorous constitution, and in the second and third lactation periods she can be pushed for a record to better advantage and with less danger of permanently impairing her usefulness.

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Emery, Ky., April 9, 1903.
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I put in one of them last year because the agent claimed it was "just as good" as a DE LAVAL machine and was $10.– cheaper. I have looked about and gotten some separator experience since then and I find now that I could have bought a DE LAVAL machine of greater actual capacity for less money in the first place, while I have lost money every day through the imperfect skimming of this machine, aside from hard running and trouble of all kinds from infernally poor construction.
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Money in Sheep and Lambs.

DR. GALEN WILSON.

It always behooves the farmer to turn his attention to such branches of his business as tend to produce the best results. This should generally include both live stock and grain growing, and not merely one of them alone. One need not expect the greatest profits by conducting only one of these separately, for one of the branches very naturally tends to feed the other. Grain feeds the stock and the latter with their manure feed the grain, and thus man is using the same forces of nature twice over to promote his own welfare.

Of the different classes of stock, it is generally conceded that sheep are well to the front in profit. The great favorable feature in them is the two crops which they yield annually—wool and lambs. No other domestic animals do this. Sheep are not grown so extensively as they ought to be, but people are waking up to the fact that there is good and sure money in them, and flocks are grazing the hills where a few years ago there were none. It requires comparatively little capital to start a nice flock of sheep, and on account of their prolificness, they soon prove to be a profitable investment. And to sum up the whole matter, there is no class of stock that can be handled so easily and with as much profit as sheep. In starting a flock it is generally best to commence with a small selection of purebreds where one can get them readily; but if not convenient, then select the best ewes from a mixed or common flock and breed up at once with purebred males, changing the rams every second year for pure-bloods of the same breed and strain, if possible. By this course, and with proper general care of the animals, in quite a few years one will have a flock he may well be proud of. When I was a lad it was the general custom to raise the wether lambs just as much as it was to raise the ewes. The wethers were kept from three to five years for the wool only, and when it became necessary or convenient to reduce the flock, the oldest wethers and the least profitable ewes were drafted out, fattened and sold to the butcher. But this is all changed now. This is what may be called a sheep section of country, and if I should look a week any time of year to try to find a wether over eight months of age, it is very doubtful if I should succeed. There is very little "mutton" grown on farms in the East lately, or kept by local butchers; it is all "lamb," "lamb." Years ago when wool was dear, it paid to retain the wethers just for the wool they grew; but with the low price of wool of late years, that would not be a paying operation. Instead of keeping any wethers, let the flock be all ewes and each will have a lamb annually to add to the income she produces; and lambs, of late, are exceedingly high in price.

To look at the growing of sheep in a business way, then and now, it is about like this: A ewe would shear on the average 5 pounds of wool. At 50 cents a pound this would be $2.50. Her lamb at six months of age would bring, if a fat one, $1.50. This made the annual income from one ewe $4.00. Today with our improved sheep—say the Rambouillets—the ewe will shear 12 pounds. I saw such wool sold this Summer for 20 cents. This would make the wool bring $2.40. The lamb at six months of age would easily bring $4, making the income from one ewe $6.40, a difference in favor of the present time of $2.40 per ewe kept by the flockmaster, more than it was then. These prices are just about as they were then and are now. So what the flockmaster loses by the low price of wool he more than makes up on the higher price of lambs.

But to make the most out of his lambs one must get them in a marketable condition at a much earlier age than he generally does. Grow them as "hothouse" lambs if the method is understood and liked, and sell them at two months of age, or a little over; or push their growth with grain and roots, or silage or grass or other green feed, until three or four months of age. They will bring more than if kept in the old way until six or eight months of age. "Young lamb" is in the greatest demand. It is more wanted than anything in the sheep line. Anything that savors at all of "mutton," or that can by even imagination be called mutton, is not so marketable. It is easy to fatten these young things. Have a lamb creep near the ewes where they can retire to at pleasure, and keep their troughs supplied with suitable grain food and succulence and they will do the rest. All ages of mutton are salable at good prices to laborers and business men at home and abroad; but if one has a mind to cater to the "high-toned" classes, there is probably more money in fitting very young for the block—the younger the better, provided only they are fat.

Tompkins Co., N. Y.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Erythema. — I have a mare which I loaned a little over two weeks ago, and when she returned her ankle had been cut and was swollen from interfering. I applied liniment to remove swelling and soreness, and it produced a blister. Her leg grew worse, swelling almost full from ankle to hock, and was very feverish and sensitive. I then bathed with witch hazel and applied vaseline and gave her from 5 to 8 miles drive each day, using care in driving. She is not lame, save that the first step when she trots is a hop and does not interfere; but the inflammation remains in the leg. The swelling goes out in part when she is exercised, and what remains is soft, but after resting a few hours it returns and is hard. The blister has peeled and now I bathe with witch hazel in the morning and wash with warm water and vinegar and carbolic soap in the evening. What shall I do to remove swelling, fever and soreness? Is it better to exercise or rest her? I have no place to turn her out for exercise save in the barnyard E. J. H.
Thills, N. Y.

You have caused inflammation of the skin by using so many irritating applications. Treat by merely smearing with lanolin twice daily until skin is normal in condition, then, if swelling persists, wet twice daily with a solution of one ounce each of sugar of lead and tincture of opium in a pint of water and apply a bandage when dry. Exercise the animal daily.

Lameness.—My horse has been getting lame in left hind leg for six months or more. He will hold up leg as if it cramped; he will not step high; appears as though his back was lame. I am unable to locate the lameness. Would his kidneys cause it?
Mansfield, Pa. GRANT LEWIS.

It is not likely that the kidneys have anything to do with the lameness, but it is, of course, impossible to guess what is the matter without a personal examination. It will be necessary to employ a veterinarian who may find lameness due to spavin, ringbone or some other cause.

Umbilical Hernia.—I have a mare colt about three months old that has umbilical hernia; the opening is about as large as a silver half dollar; the tumor half as large as a hen's egg. What can I do to remove the blemish?
Berryville, Va. C. E. LIPPITT.

As a rule, the tendency is for foals to outgrow this condition, but recovery may be hastened by applying a sole leather truss held in place by means of a harness constructed of suspender elastic. When filly grows if there is no tendency for rupture to disappear, and especially should it enlarge, operate according to instructions so often given in this department of the P. F.

Asthma.—I have a 7-year-old mare that appears to be all right excepting that when led out in the morning in damp weather her breathing is attended with a roaring sound in the nostrils. As soon as started in the harness the unnatural sound ceases. Her wind seems to be good. In hot, dry weather the roaring, or snorting, is not heard. What is the cause of said sound, and is there any remedy?
Stroh, Ind. WILL S. BENNETT.

It is likely that the trouble is due to asthma, but at the same time it is possible that there may be an obstruction such as a polypus in the nostril, so that an examination should be made. If nothing of this sort is found see that the stable she is kept in is clean and well ventilated, and give her a half ounce of Fowler's solution of arsenic twice daily until well, then gradually decrease dose, but do not stop this medicine suddenly. Wet all food.

Cough.—About a year ago I bought a young cow, which I found had some cough, and was not in very good condition, but has gained considerably since. The cough kept the same until about two weeks ago, when her appetite suddenly failed and had not much inclination to drink; also milk ceased to flow; would lie with nose resting on ground and is very weak. We thought perhaps it was caused by the liver (hepatitis), but have not had much success doctoring, except to increase appetite a little.
So. Dayton, N. Y. F. B. CLARK.

There is everything to lead one to suspect tuberculosis in this case, and we would therefore advise you to have the cow tested with tuberculin at once.

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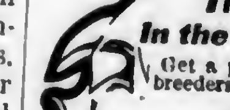

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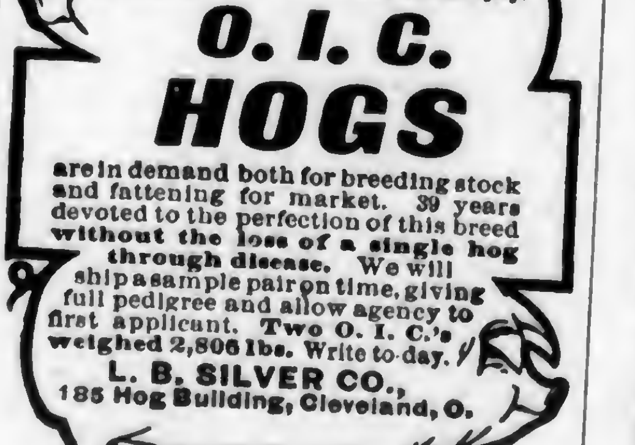

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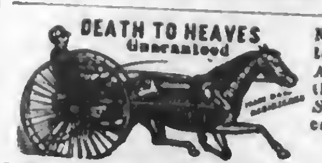

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POUGHKEEPSIE, N. Y., March 1, 1902.
Fifteen years ago last October we started our creamery on the co-operative plan recommended by your agent, fitting the building with machinery from your Company, and using the Cooley Creamers for the patrons. We have run on this same plan for all these years until Sept. 1899, when we put in separators. Our patrons are using more than three to one of the U. S. Separators over all other makes, and we believe the U. S. Separator to be the best on the market.
We are still working the cream gathering plan, and believe it to be the best for the rural districts, where unavoidably some of the patrons are a long distance from the creamery. We are satisfied with it, because we believe it to be the best and the cheapest. No farmer can afford to hitch up and carry his own milk, even if he live within half a mile of the creamery, if he can get it done, as we have this year, **at the average cost to each patron per day of 9 cents, and some years for less.**
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323

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

A Review of Varieties.

Vegetables for Home Use. — One of our readers asks me to give a list of my favorite varieties of vegetables for the home garden. In some respects this, like the tariff, is a local question, and one likewise of considerable individual or personal bearing. Tastes differ. A vegetable that would just suit my own taste, my own conditions, etc., might be rejected as unsuited to somebody else's taste or conditions. How difficult it is to reconcile individual tastes and opinions is shown strikingly, for instance, in the endless discussions and disputes about the relative merits of blanched and green asparagus. Some persons find the climax of deliciousness in the tender tips of green asparagus, and pronounce blanched stalks tough and of objectionably strong flavor, while others (and I belong to them) with equally strong conviction and just as good reason find the highest table pleasures in the tip ends of properly grown, well blanched asparagus stalks, and value the delicately mild flavor of white asparagus far above the stronger and more pronounced flavor of the green stalks. This dispute between the advocates of green and white, respectively, has been carried on for many years, and is good for many years longer. Some people (to speak of another instance) find the highest table quality in the Early Yellow Turnip beet; others prefer the sugar beet varieties, and still others do not find difference enough in the quality between yellow and red table beet varieties to make them disregard the fashion which requires a red beet for the table. As for myself, all beets (except sugar beets) taste alike to me. With other vegetables, we have to discover, first, whether they suit our climatic and soil conditions, and whether they suit our individual taste. So the whole question resolves itself into a matter of testing. We have to try variety after variety, reject what we do not like, or find without sufficient merit, and retry and reject, until through elimination we finally narrow our varieties down to a few of those which are the "best" for us, *i. e.*, for each individual grower.

To go through the entire list, I should begin with asparagus. Of this I have never seen any garden variety that I did not like, and any of them will give us plenty of table pleasures and culinary service if we only treat it right. However, there are marked varietal differences, more pronounced, perhaps, in color than in quality or even size, for we can grow mammoth stalks with any of them, or poor, weakly, crooked or misshapen things in accordance with the conditions of soil, feeding, and culture. Columbian Mammoth White is one of the newest sorts, and especially characterized by the blanched appearance of its stalks even when growing above ground. I do not consider it a particularly vigorous variety, however, and would prefer Palmetto, especially if the locality is subject to asparagus rust. The new strain of Argenteuil should be tried, and I am going to plant a small bed of all kinds now generally catalogued, for comparison. I also have now growing a few dozen plants of Burbank's new Quality, and have some curiosity to know whether there is really any chance to make a further improvement on our already most delicious of all garden vegetables (so far as quality is concerned) by breeding and not alone by feeding or cultural management. The quality of any well-grown asparagus is good enough already, and I am only sorry that we, at our home, have not discovered a good way of retaining all this good quality in the canned product. The trouble is that we, like most other people, have not had much experience in the home canning of asparagus.

In string beans we want, first of all, a good green-podded sort, as this can be planted earlier and will give an earlier product than the usually more popular and more appetizing yellow-podded sorts. Early Valentine has for many years filled the bill for the green sort, but for the past two years I have had the New Stringless Green Pod take its place. Among wax sorts we have a great number to choose from, such as Golden Wax, Butter Wax, Black Wax, etc. I am now using mostly Davis Kidney Wax bean, and am satisfied with it. For a field bean we plant mostly the Medium. In lima beans I have for some years wavered between the bush and the pole sorts, but have finally fallen back upon our old reliable pole, or running varieties, especially the King of the Garden and Early Jersey, or Seibert's. I have better success with these than with the new bush sorts, but find that the latter are giving perfect satisfaction to many other gardeners who seem to have suitable soil or greater knack of managing these bush forms of the lima. I can grow good crops of Henderson's bush lima but this is too small to suit me when I can just as well have the large limas on poles or trellises in greatest abundance. A number of new varieties of the large lima are offered this year, notably Wood's Prolific, which is highly spoken of and should be tried by all interested in limas. My trials with Mammoth sunflowers, one stalk to the hill, as a bean pole substitute, were not wholly satisfactory, although we can get beans about as early by this method as by any other, but the sunflower takes so much of the substance of the soil that the growth of the limas is thin and weak, and the yield extremely light. Notwithstanding this, however, I shall have another long row of the combination crop this year. We get limas in this way without the necessity of putting up a trellis, or setting poles, or spending much time in tying the vines up to their supports.

Among beets the Early Egyptian has usually been considered earliest, but for a number of years I have grown Eclipse almost to the exclusion of all others. It is good enough and reliable both for home use and market A number of very nice newer sorts have recently been brought out, and although I have tested most of them, I have not yet decided on making a radical change. New Cardinal, Blood Turnip, Edmand's and other new ones should be tried. I had Yellow Turnip for a year or two, as so much was claimed for it in regard to superior quality, but shall confine myself to the red sorts again. In mangels I pick for size more than for anything else. When I raise roots for stock, I want quantity. Feeding mangels is a good way of watering cattle, and there seems to be health in succulence. For that reason I have been growing Jumbo, or Long Mammoth for red, and Yellow Tankard, or Gatepost, for yellow, and find I can easily fill every available storage place (and some pits outdoors, besides), with these mammoth mangels, specimens of which often grow to weigh 15 pounds or more apiece.

Next comes the cabbage. For first early I still grow Extra Early Jersey Wakefield and the newer flat-headed "First Early," or Eureka. I consider the latter preferable for home use on account of its fine quality. A favorite of mine for mid-season, and planted late even for late fall and winter use, is Early Winningstadt, which also excels in quality and solidity. This is especially suitable for the amateur, or for people who have no particularly striking success with other varieties. For late, we could do much worse than select a good strain of the Flat Dutch, or the Surehead. I also like to have some Savoys (Drumhead) and a red kind like Mammoth Red Rock. Danish Ballhead is grown altogether by the large cabbage growers in the Western part of this State, and almost to the exclusion of all others. But it is coarse, and not noted for high quality.

If we want carrots to cook with our green peas before the pea season is over (and I am very fond of the combination, especially when the carrots are yet very young and very tender) we must not only sow the seed very early in the warmest spot we have in the garden, but also select a very early variety, such as French Forcing, or Golden Ball, which is rather small, Early Scarlet Horn, or Oxheart. For main crop I have usually grown the Chantenay or the Danvers. For stock, Danvers, Long Orange and White Belgian are serviceable.

Among cauliflowers we select Maule's Earliest, or any of the Snowball or Erfurt type of varieties. Any cauliflower, to make a good head, wants heavy feeding. Otherwise the varietal differences are slight.

For early celery I still plant White Plume, although reducing the proportion from year to year and increasing that of Golden Self Blanching. The new Rose Ribbed is my favorite red variety. For main crop or winter I plant Pascal, Golden Heart and Evans' Triumph, but there are again a number of new sorts which we must try, like Schumacher, Winter Queen, Perle le Grande, etc.

Among cucumbers we have a whole lot that are good for the home garden. Years ago I always planted at least a few hills of the Early Russian, then by a good deal the earliest sort in cultivation, but which gives very small pickles or cucumbers. In recent years I have not had much success with this, owing either to a degeneration of the variety, or to changed soil conditions. Maule's Extra Early should be tried. Next we have Early Green Cluster, Green Prolific, Nichol's Medium Green, etc. For main crop we have White Spine, Improved Long Green and some others. I have no particular preference among them as all are good and reliable. For the few plants which I start along in March in the greenhouse, I plant Forcing White Spine and one of the English frame sorts, like Telegraph.

When it comes to planting lettuce, especially in open ground, I find we have so many good varieties that I am all at sea when asked to select "the best." For greenhouse and frame work the task is comparatively easy. We have Grand Rapids as the lettuce *par excellence* for thrift and health, often altogether escaping the attacks of the various diseases of forced lettuce, when the close-heading sorts in the same house or frame are almost ruined. For heading sorts we use a strain of Tennisball or Boston Market, or any of those sorts sent out by reliable seedsmen as "Hothouse Lettuce." Big Boston belongs to this type, but is rather coarse, and to me objectionable on that account. In the open ground, however, we can just as well have half a dozen or a dozen different kinds. It makes an interesting collection, and a succession of lettuce in best table condition. First of all I set out a few plants of the Tennisball or other early forcing sort, from the cold frame; and at the same time I sow each a little row of Early Prize Head, Iceberg, Philadelphia, or California Butter, Stubborn Seeder, Mignonette, Maximum, New York, Summerland, and possibly others. For forcing we might also try Tilton's White Star and Silver Ball.

To have a succession of sweet corn, I have usually planted Cory for first; then Kendall's Early Giant, Black Mexican and Country Gentleman (Shoepeg). For main market crop I believe I would still stick to Evergreen (Stowell's). I have been disappointed in the Sheffield, which I tested for two seasons. There are now several sorts which are claimed to be "first of all," *i. e*, earlier even than Cory, and possibly larger-eared.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Examine Orchard Trees.

The numerous twigs of trees covered with San Jose scale continually coming to me, by mail, from all parts of the country, are evidence of how widespread is this pest. Within the past week two such packages have been received, one from Indiana and the other from Pennsylvania. A very bad feature is that the twigs are usually so full that the bark is invisible, showing the scale must have been on the tree some time, to have become so numerous. It becomes the business of everyone to examine all his fruit trees—and other trees, too—at once and often, in order that the pest may not get a strong foothold before being discovered. It won't do to rest satisfied because no trees have been added to the orchard lately. It does not need this to introduce it. Birds, especially those in numbers, such as the English sparrow, bring it on their feet, flying from tree to tree. Your trees may be free, your neighbor's trees may have the pest. From his trees you are safe to be supplied. A case of this kind came to my notice last week. A neighbor had a seedling apple tree spring up alongside his fence. Being about seven feet high, he grafted it last March. Last week, in examining the grafts, which had grown well, he discovered scale on both grafts and tree. Examining closer he was greatly surprised to find it the San Jose scale. A spade was secured and the tree dug out, cut up and burned at once. Just where these scales were brought from by the sparrows he has no idea. There were none on the tree which supplied the grafts. There are infested trees reported some half mile away, and it must be that some scale must have been brought from those trees on the feet of the sparrows. There was positively no scale on the place before. Those having fruit trees should lose no time in examining their trees. Where the trees are numerous a spraying outfit should be secured, literature bearing on the subject procured, and the trees be sprayed regularly several times a year. Every precaution should be observed to keep injurious insects from the trees.

Pears and their Cultivation.

Some time ago a correspondent asked that I give a list of some good pears, and some hints on their cultivation. The list of pears is too long to select a few from and call them the best. In this part of Pennsylvania we have a half dozen or so old favorites which, in part, are found in all collections. My own trials have been with about one dozen, grown for family use. A neighbor, a nurseryman, tells me that of all the pear trees he sells, Bartlett leads five to one; next is Seckel, then Clapp's Favorite, Howell, Kieffer, Lawrence and Sheldon, in the order named. This is not just as I would arrange. If I wanted but one, I would start with Bartlett, but my second would be Lawrence; third, Clapp's Favorite; perhaps the fourth Seckel. Then Howell, Sheldon, Vermont Beauty, Anjou and perhaps Kieffer. I would put Seckel about fourth, not but that its flavor is worthy of its being in the second place, if not in the first, but because of its tardiness in fruiting. It takes many more years for it to bear than it does the other, but when it does fruit, one has a pear of the highest excellence. The Lawrence is much overlooked in garden collections, though orchardists know its value; and in the pear districts of New York State there are orchards wholly of it. It is to be gathered just before frost; and in any cool place will keep until the end of winter. In the South, where the Chinese type does better than others, the LeConte, Garber and Kieffer will be required, with Kieffer leading.

Regarding cultivation, any ordinary situation does for pears. They are to be seen in all sorts of places, doing well everywhere, excepting in wet ones and those of a hilly, dry nature.

From the time of planting until fruiting commences, keep them cultivated. When bearing sets in cultivation is not so essential; in fact, some of the most prolific bearing trees to be seen are some growing in pastures or on lawns where there is perpetual sod, but the grass is always short. One reason why they thrive so well there is that they delight in cool soil, and this the sod insures. Besides this, though growth is good, it is not as rampant as it would be otherwise and this aids in keeping it healthy.

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Horticultural Notes.

Transplanting Hollies. — In winter, when hollies are in berry, small plants which it may be desired to transplant, should be marked in some way. All hollies are not fertile, and to pick out a bush at random may result in the selection of one of a non-bearing character.

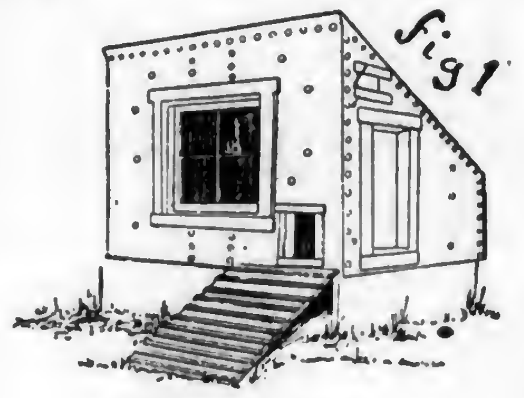
A Good Tree.—Cerasus serotina is the fast-growing, hardy tree, succeeding in the cold Northwest. Its timber is very good, and then there are the ripe cherries, which are reputed of much value in the making of a tonic by letting them soak in whiskey.

POULTRY.

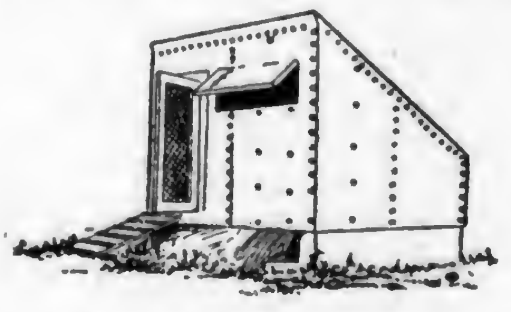
All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Outdoor Brooders.

Now is not exactly the time to use outdoor brooders very much. But it is time already to think of next spring's business, and to investigate the subject of selecting and purchasing or building incubators and brooders. We have no high opinion of home-made incubators, believing that the best, the safest to use, are the best that are now offered by our regular incubator manufacturers, the Cyphers, the Cornell, the Prairie State, etc. Perhaps these firms also make good brooders, for both indoor and outdoor use. In fact, such factory-made brooders are largely used, and with great success. We have also used simple home-made brooders for use in the greenhouse, and had good success in raising strong chicks, ducklings, turks, etc. For outdoor use, a larger brooder can easily be made by anyone having average mechanical skill, at home. Mr. T. E. Orr, in Commercial Poultry, gives a description of the large brooders which he uses with most satisfactory success and which are here illustrated. He says: "The brooders which we have found most satisfactory, are large affairs—solidly and substantially built. They are closely and neatly covered with heavy paper. They are five and one-half feet square, four feet high in front, two feet high at the back and have a solid shed roof. We make them to stand twelve inches off the ground so that the lamp box can be worked conveniently. On those we built first we put a door two and one-half by one and one-half feet in one end and a window two and one-half feet in the front as shown in the illustration, Fig. 1; but in our later ones we have omitted the end door entirely, hinging the front door at the top so that it drops flush with the floor. Now how do we heat this brooder? Thus: We cut a hole in the floor fourteen inches square six inches from the rear wall, making the centre of this hole midway between the ends. Into this we fit closely the ordinary square tin radiator, the bottom coming flush with the floor of the brooder and resting on projecting cleats. Under this and with the smoke pipe projecting through the roof of the brooder, we use the strongest and best lamp obtainable. They cost $1.75 each, but can be made to produce great heat without overtaxing their capacity. Over the radiator with a half-inch air space we place a board hover twenty-six inches square, so that it projects six inches beyond the radiator on all sides. From it of course are suspended the usual cotton flannel curtains among which the chicks hover. The thermometer is attached to a round stick fifteen inches long, which projects through a round hole at the back of the brooder and which reaches past the middle of one end of the hover. Into such a brooder you can put 100 chicks without the least fear of crowding. As they get larger they can be under or upon the hover as they prefer. If the rear centre of the brooder becomes too warm for them they can escape to either end or to the front as they choose. With such a lamp, there is no trouble in any weather in keeping the heat at 90 degrees, and if the weather is wet and cold they have abundant room for exercise without going out doors."



Home-Made Brooder.



Another Style of Brooder.

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Seasonable Suggestions.

Eggs for the House in Winter.—Possibly our hens may lay all winter long, more or less, so that we will have the needed supply for cooking purposes without a break. Yet such break may come, especially if we should have a long spell of very severe cold weather, and if our henhouse is not so snug that it is practically frost-proof, or, if we have not managed just right with a view to the production of fresh eggs during winter. It is therefore always a wise precaution to provide for a possible shortage then, by storing some eggs now, during the fall months. It is a comparatively easy task to put up a few hundred fresh eggs so they will keep in good condition, in fact, as good as fresh, for several months, perhaps even until spring. First of all, have no male with your hens. The unfertilized eggs will keep all the better Gather them daily, and at once anoint them all over with vaseline, so that the pores in the shell are filled and made air-tight. Then pack them in bran in baskets or boxes, and keep them in a cool cellar until wanted. It is undoubtedly a good plan to turn them from time to time, and if they are put up in a box, tightly packed, and cover fastened on with two or three screws or clamps, the entire box may be turned occasionally, saving the trouble of turning each egg separately.

The Indispensable Cleaning Preparation.—I have had half a dozen or more inquiries about the "cleaning preparation which is indispensable." The questions asked are: "What is this preparation? Who makes it, or sells it? For what purpose is it used? Does it clean the skin? Start pin feathers?" Our friends seem to have an idea that this "cleaning preparation" is a patented article that we wish to boom. Not so. It is simply a cleaning preparation, not any particular one. It is the cleaning which is indispensable, not a certain preparation. We have, before this, grown Pekin ducks, and dressed them for market when about ten weeks old. The final cleaning was never omitted (as we sometimes do with chickens). Make a strong suds of good soap, or of washing powder (gold dust), and rub the dressed chicken or duck all over with it, using a clean cloth or wash rag, until the skin appears clean and bright. This manipulation is indispensable if you want the fowl to appear at its best. This in answer to our many inquirers.

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Of Interest to Business Men.

THE UNION PACIFIC, on account of the varied character of the country it traverses, offers to those who contemplate going West, a more diversified territory to select from than does any other transcontinental line, passing as it does through, or reaching, via its connections, Nebraska, Kansas, Texas, New Mexico, Colorado, Wyoming, Utah, Idaho, Montana, Oregon and Washington. Every business interest is to be found along its line.

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The Root of the Matter.

He Cured Himself of Serious Stomach Trouble, by Getting Down to First Principles.

A man of large affairs in one of our prominent eastern cities by too close attention to business, too little exercise and too many club dinners, finally began to pay nature's tax, levied in the form of chronic stomach trouble; the failure of his digestion brought about a nervous irritability making it impossible to apply himself to his daily business and finally deranging the kidneys and heart.

In his own words he says: "I consulted one physician after another and each one seemed to understand my case, but all the same they each failed to bring about the return of my former digestion, appetite and vigor. For two years I went from pillar to post, from one sanitarium to another, I gave up smoking, I quit coffee and even renounced my daily glass or two of beer, but without any marked improvement.

"Friends had often advised me to try a well known proprietary medicine, Stuart's Dyspepsia Tablets and I had often perused the newspaper advertisements of the remedy but never took any stock in advertised medicines nor could believe a fifty-cent patent medicine would touch my case.

"To make a long story short I finally bought a couple of packages at the nearest drug store and took two or three tablets after each meal and occasionally a tablet between meals, when I felt any feeling of nausea or discomfort.

"I was surprised at the end of the first week to note a marked improvement in my appetite and general health and before the two packages were gone I was certain that Stuart's Dyspepsia Tablets was going to cure completely and they did not disappoint me. I can eat and sleep and enjoy my coffee and cigar and no one would suppose I had ever known the horrors of dyspepsia.

"Out of friendly curiosity I wrote to the proprietors of the remedy asking for information as to what the tablets contained and they replied that the principal ingredients were aseptic pepsin (government test), malt diastase and other natural digestives, which digest food regardless of the condition of the stomach."

The root of the matter is this, the digestive elements contained in Stuart's Dyspepsia Tablets will digest the food, give the over-worked stomach a chance to recuperate and the nerves and whole system receive the nourishment which can only come from food; stimulants and nerve tonics never give real strength, they give a fictitious strength, invariably followed by reaction. Every drop of blood, every nerve and tissue is manufactured from our daily food, and if you can insure its prompt action and complete digestion by the regular use of so good and wholesome a remedy as Stuart's Dyspepsia Tablets, you will have no need of nerve tonics and sanitariums.

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PROF. W. F. MASSEY, Editor.

Philadelphia, September 19, 1903

We would remind the Farmer's Voice and National Rural of Chicago that the P. F. was the only paper in which the lecture of Prof. W. F. Massey before the Farmers' Convention of North Carolina was published, and that in printing an extract from this address it would have been proper to have given credit to the P. F.

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Hundreds of the best farmers in the Eastern part of the country have long since come to the conclusion that cattle feeding cannot be profitably pursued here. Perhaps as a sole business it cannot. But even the stockman should not put all his eggs in one basket any more than the single cropper with grain, tobacco or cotton. The day will never come when the farmer in the East can afford entirely to ignore stock feeding. No system of farm rotation can ever be permanently as profitable as it should be if the growing of legume forage and the feeding of live stock is omitted. This is an essential part in any systematic farming, and it will pay if it only affords a home market for all the forage raised an the farm. No man who attempts general farming without a due proportion of live stock is farming right.

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One of the most interesting things noticed on the trip from the North Carolina Institutes to Philadelphia was the great increase in the cultivation of the cow pea northward. In fact, the farmers of Northern Virginia, Maryland and Delaware seem to be entering into the cultivation more extensively than in the home of the pea further South. They are finding out that an early breaking of the land for peas forms the best fallow for wheat that is to follow on the pea stubble. Another indication of improved methods is the better preparation of the fallow not in peas, in preparation for wheat. We noticed many fields which had already (Sept. 3d) been harrowed and rolled a number of times, and which to the casual observer were already in fine order. But the harrows were still going over the land, and farmers in these sections seem to be rapidly finding out that every time the roller and harrow go over the land they are adding bushels to the chance for a wheat crop. While the cotton farmers of the South are in fine spirits over the prospective good price for the staple, we found that the tobacco growers everywhere are in a bad way by reason of the grasping monopoly of the American Tobacco Co., which absolutely controls the price of the crop, and is disposed to use its power to lower the price of the raw material while advancing the price of their product. The Trust talks about over-production and decreased demand for their goods as the reason for the low prices. But we noticed that the great factories of the American Tobacco Co. at Durham, N. C., are running day and night. So it would seem that there must be an active demand for their product. Some ill-advised people are urging a boycott of trust-manufactured tobacco. But it is evident that this would cut both ways, for a decreased sale of their goods would put a weapon in the hands of the Trust that they would not fail to use. The farmers of North Carolina are organizing for the purpose of starting independent factories. If these are maintained with abundant capital and properly managed, it would seem to be the most business-like way to make a competition to break the monopoly. We noted, too, that while the cotton crop in North Carolina has a promising growth and is better than in most other States, it is very late, and the success of the crop depends on a late, frostless autumn. Some farmers are taking advantage of the good price for futures to sell their crop in advance, and they may be wise in doing so, though an early frost will certainly start cotton soaring again, and in any event cotton prices seem certain to hold up for some time to come.

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Don't Risk All on One Crop.

The danger of good prices for cotton is that the cotton farmers of the South will forget the lesson that the low price of a few years back taught them, and will drop the rotation of crops many of them have begun, and will put the whole land in cotton, and then with a bumper crop and low prices they will again be in a bad way, with their eggs all in the one basket. Don't lose your head over 18-cent cotton, but rather try to grow more of it per acre instead of more acres.

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Rural Free Delivery.

One of our lady subscribers in Illinois writes that her address must be changed because the postal authorities have changed the Rural Delivery route to accommodate another section, and have cut off her neighborhood. She wants the P. F. to tell them what a mean thing they have done, for they thoroughly enjoyed the privilege, and she thinks that a new route should have been made for those wanting it, so as not to have interfered with the route already in use. We hope that the time in not far distant when *all* who live in the country will have the mail brought to them. In the meantime we can do little to help such a situation as our subscriber describes. Many thousands more could be supplied with free delivery if the wholesale peculations of those near the head of affairs had been checked long ago.

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The Cotton Situation.

We are often asked about the prospects for the cotton crop, and the effect on the market of the speculation in cotton. Secretary Wilson seems to think that the efforts that have been made to corner the cotton supply will militate against the growers. But the fact seems to be that there is a real shortage in the supply of cotton all over the world, and it is said that if the cotton now in the hands of the men who have endeavored to corner it was let loose it would not keep the mills running six weeks. Hence it does not seem to be much of a corner. It is evident that the growing crop will not be a large one. North Carolina may have a fair crop if frost holds off late, but the crop, though generally in fine shape, is all three weeks late, and an early frost will cut it very short. Elsewhere in the South the crop is reported poor. With the evident shortage in all the markets it is certain that even with a good crop the price cannot fall greatly. A good many farmers we hear of are selling their crops at present quotations for future delivery, and if there is much of this future delivery buying at the figures that now prevail, for the late fall and winter months the farmers who hold on will be pretty certain of a good price, since it will be to the interest of the speculators to keep up the prices on their futures. In short, it looks as though good prices for the staple must prevail with this crop. And then it is to be hoped that the farmers will not run cotton crazy another season and overdo it.

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Don't Want Any Egg Preservative.

We have a letter from California, signed in a woman's name, but evidently written by a man. The purpose of this letter is to try to get the P. F. to induce its readers to send for a certain wonderful process for keeping eggs fresh so that they can be sold when the price is high. The letter tells of the writer's leaving Pennsylvania with lungs nearly gone, and being restored by the splendid climate of California. She wanted some means of making a living and then she struck the Egg Association of California and they showed her how to preserve eggs, and they will tell anyone else how to do it free of cost. Miss Mary J., your scheme is entirely too transparent. The Egg Association is Mary J. and Mary J. is the Egg Association, and Mary J. is a man who preys on the credulity of the country people in sundry ways. The Editor of the P. F. therefore urges the readers of this paper to have nothing whatever to do with any Egg Association in California or elsewhere. If Mary J. can make so much money buying eggs when they are cheap and selling them at high prices why does she want to tell others how to do it free of cost?

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Improving Hill Pastures.

We are often asked about the improvement of the grass on pastures that seem to be running out. Many ask if they cannot run a disk or drag over and sow grass seeds without replowing the land, and thus renew the sod. The main reason for the running out of the grass is that men imagine that grass can be taken off the land, young cattle can build up their boney frames and thus take the phosphates out of the soil, and that the soil will continue to produce grass. They seem to think that grass may be continually removed from the land and the soil continue fertile. It is time for us to realize that grass exhausts the soil just as other crops do, and if it is all taken off year after year the soil must become capable of producing less. In the droppings of the cattle, if they are carefully scattered, we may return much of the nitrogen, but if young and growing animals are pastured we cannot return the phosphoric acid they take from the soil in the building up of their boney structure. There would be no running out of a sod if we realized that the pasture needs fertilizing as much as any part of the farm. We know of hill pastures that have been unbroken for generations, and which instead of running out have increased in their capacity to feed stock. These pastures, however, have had an annual dressing of raw bone meal, the droppings have been regularly scattered, and the mowing machines occasionally run over to clip off the rank spots that the cattle avoid and to keep down any growth of weeds. With an annual top dressing and keeping the pasture clean there will be no running out, but rather an increase in the capacity of the sod. Try this. We have also found it a good plan to scatter in late summer and fall seed of crimson clover on a pasture. In the shade of the grass it will germinate and grow and add a great deal to the spring pasturage, while the power of the plant to get nitrogen from the air will help the rest of the grass. Try this, too.

The Cream of the Bulletins.

The University of Nebraska Agricultural Experiment Station, Lincoln, Neb. Bulletin No. 80. Experiments in Mulching Garden Vegetables. By R. A. Emerson.

It is no new thing, as the bulletin says, to use straw as a mulch for the purpose of conserving soil moisture and to prevent weed growth in gardens, but it has found restricted use in vegetable growth for many years. Potatoes and strawberries have been mulched more than other crops, but experiments in this line have been made with other plants and with orchards. While the experiments made at the Stations have generally been favorable to mulching the practice has not come into general use, and there must be some serious drawback to it. The farm garden is apt to be a thing of spring enthusiasm and generally lacks attention in the hot weather when other work is driving. Hence any practice that will save labor in hot weather and the rush of farm work, deserves attention. The test of mulching was begun at the Nebraska Station in 1900. During the first year, a nearly normal season, mulching was compared with thorough cultivation in growing a considerable number of garden vegetables on upland without irrigation. In the very dry summer of 1901 the comparison was made on both irrigated and unirrigated upland. In 1902 mulching was tested in comparison with thorough cultivation on both upland and bottom land, but neither upland nor bottom was irrigated in the very wet summer. In 1900 the garden was divided lengthwise into two plats, one mulched and the other cultivated. Both plats were cultivated for awhile, the mulch being applied usually a month after the planting of the vegetables. Mulch used was old straw and partly cured blue grass hay. After settling the mulch was four inches deep. The cultivation on the other plat was thorough, as it was not designed to compare neglect with mulching. In 1901 five plats were grown, two being irrigated and three unirrigated. One irrigated plat was mulched and the other cultivated. The mulched plat, owing to slope of land, had more water than the cultivated plat. Of the three unirrigated plats one was mulched and two cultivated. The results are given in the bulletin in tables. The crop of lettuce was composed of three varieties, Iceberg, Grand Rapids and Tennisball. In 1900 the mulched Iceberg lettuce made about half the crop of the cultivated. In 1901 the Grand Rapids lettuce on the irrigated plat with mulch made a total weight of a little more than half that on the cultivated plat, but the heads were nearly as large, while on the unirrigated plats the crop was nearly equal with mulch and without. In 1902 the cultivated lettuce far exceeded the mulched in total weight and size of heads. The heads were earlier on the mulched plat in 1900, and later in the other years. In cabbages, Surehead and Early Jersey Wakefield were grown. In 1900 the mulched plat of Surehead far exceeded the cultivated plat, as also the Wakefield, and the size of heads in the Surehead averaged larger. Similar results were had in 1901 and 1902 with the Surehead, while the difference was not so great with the Wakefield. The cultivated cabbage rotted much worse than the mulched, while on the low land the mulched cabbages rotted worse. But the heads of the Surehead were larger on the cultivated plats. Mulching was favorable to cabbages, but should not be done when grasshoppers are abundant. With tomatoes it was noted that in the moist season of 1900 and the wet season of 1902 the use of a mulch decidedly increased the yield of fruit. In 1901 the mulched tomatoes on irrigated land yielded more than the cultivated ones, the difference being greater with Dwarf Champion. On unirrigated land the Dwarf Champion made the same yield on both, and the Stone almost doubled the yield on the cultivated plat over the mulched. Mulched tomatoes rotted less than the cultivated ones and were larger and smoother, but were cut sooner by early frost. With peas the results were rather in favor of cultivation, and with beans the cultivated plats beat the mulched ones, though in 1900 mulching was an advantage with Navy beans. Cucumbers did much better with mulching, and in the wet season of 1902 the mulched plants lived and made some fruits while the cultivated plants made nothing at all. With watermelons and muskmelons the result was again in favor of the mulch. With sweet corn the cultivated plats were ahead, and with beets there was little difference, as also with salsify. With onions the cultivation beat the mulch, but in the following years, with transplanted onions, the mulch was a little ahead. On the whole, mulching has proven a satisfactory way to produce garden vegetables, depending to a great extent on the kind of vegetables. The bulletin gives a very full discussion of the results, and it is well worth the attention of growers.

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CONTENTS

AGRICULTURAL. — Wheat Knowledge from Canada.—How to Keep Gravel Walks and Drives Clean.—Health Hints: The Same Medicine for All. —Help Nature to Cure You. 177
Two Years' Experience with Cow Peas in Latitude 42½ Degrees North. 178
QUERIES.—Clover and Vetch.—Cow Peas in New York.—Manuring Land. 178
Gardening in the Moon.—Rhubarb in the South.—Cultivating Cotton. —Fertilizers and Forage in Tennessee. — Horse Nettle. — Wheat and Manure.—Alfalfa Turning Yellow. 179
LIVE STOCK AND DAIRY.—The Care of Young Heifers. 180
Money in Sheep and Lambs. 181
VETERINARY. — Erythema. — Lameness.—Umbilical Hernia. — Asthma. —Cough. 181
GARDEN.—Talks on Timely Topics.—A Review of Varieties. 182
HORTICULTURAL. — Examine Orchard Trees.—Pears and Their Cultivation. —Horticultural Notes. 183
POULTRY.—Outdoor Brooders.—Seasonable Suggestions.—Eggs for the House in Winter.—The Indispensable Cleaning Preparation. 183
EDITORIAL.—Don't Risk All on One Crop.—Rural Free Delivery.—The Cotton Situation.—Don't Want Any Egg Preservative.—Improving Hill Pastures. 184
CREAM OF THE BULLETINS. 184
COMMERCIAL. 185
HOME CIRCLE. — Prize Offer. — A Mother's Love.—Editorial Chat.—All in a Lifetime; Part 11.—In the Sick Room. 186
Our Shut-ins.—Correspondence. 187
OUR EXPERIENCE POOL.—Topic No. 590.—What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without, with Disk or Hoe? 188
SHORT CUTS BY P. F. SUBS.—Hitching Three Horses to a Wagon.—Handy Gates in Calf Barn.—Uses for Old Stockings.—Short Cut in Dressing Poultry.—To Keep Chickens Out of Flower Beds.—Housecleaning Hints.—Handy Grit Block. —Cheap Ice Box.—Fixing an Old Binder. 189
POSTAL CARD CORRESPONDENCE. 192

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PHILADELPHIA MARKET REVIEW.

Philadelphia, Sept. 12, 1903.

A legal holiday has made a short week in trade, with some confusion at first in catching up with the routine in all departments of the produce market. Wheat rules quiet, and while prices are not materially higher, they are firm in sympathy with conditions prevailing in the West. Corn has advanced ¼c.; supplies are small; demand from all sources at present is light. Oats are steady; supplies light. During the week shipments of live poultry have been anything but heavy. Prices have improved, and there was a regular demand for good stock. Spring chickens were in good demand, but continued liberal arrivals caused prices to drop a shade lower. In dressed poultry prime fowls were sought for, yellow-meat chickens having the preference. Butter of all grades is being hurried to city commission men, and the bulk of it is going into cold storage warehouses. The average receipts each day by rail from distant creameries amount to over 5,000 tubs and packages—nearly two million pounds a week. In the face of these heavy shipments the wholesalers are doing their best to maintain regular prices and avoid a break, which, as long as the warehouses have storage capacity, they hope to avoid. There was a good demand for strictly fine creamery, the supply of which was rather limited, prices ruling at 20½c. Undergrades, at lower rates, were sought, but ladle-packed and imitation creamery had slow sale. There were moderate offerings of strictly fine prints, which were taken with avidity by retailers who have select trade. Prices on strictly fresh-laid eggs held firmly all the week, and supplies were believed to have been pretty well cleaned up. Sales were heavy in car-lots by the leading commission houses, who held out for a shade advance on high-class eggs. Withdrawals from storage were stated to average over a thousand cases a day. Wholesalers report unusually heavy orders, consumers appearing to want eggs in twice the quantities of a year ago. Receipts as to quality were not up to standard, probably owing to hot weather in the egg-producing districts and lack of care in shipping. The ruling price by the quantity for best grades was $6.30 a crate of 30 dozen. Nearby firsts were quoted at 23c., loss off, and from that down to 19c. for Southern eggs in free cases. Cheese advanced slightly because of improvement in country markets generally. Cotton holds steady at 12¼c. Within a week new timothy hay, according to quality, has advanced 50c. to $1 per ton, with better demand. Supplies of straw are inadequate even for moderate demand. Dressed beef has advanced slightly since last report.

Vegetables and fruits, except potatoes, cabbage, and other winter stock, have held firmly, with advances in some lines. Peaches are almost done for; watermelons and cantaloupes are at give-away prices, the market being overstocked with all sorts of stuff—a sort of general round-up from growers who want to get something to market in advance of possible frost.

WHEAT.—	
No. 2, red, spot and Sept.	82¾ @ 83
No. 2, Penna. and Del.	84¾ @ 85
No. 3, red	77¾ @ 78
CORN.—	
No. 2, spot and Sept.	56 @ 56½
No. 2, yellow, track	62
No. 3	52 @ 52½
OATS.—	
No. 2, white natural, new	41 @ 41½
No. 2, white clipped	42½
LIVE POULTRY.—	
Fowls, hens, per lb.	14 @ 14½
Roosters, per lb.	9½ @ 10
Spring chickens, per lb.	13½ @ 14½
Spring ducks, per lb.	12
Old ducks, per lb.	11 @ 12
DRESSED POULTRY.—	
FRESH KILLED.	
Fowls, choice	13½
Fowls, average	12½ @ 13
Old roosters	9
Broilers, nearby	14 @ 16
BUTTER.—	
West. creamery, 1sts to extra	20 @ 20½
Ladle packed	15
Prints, nearby, 1sts to extras	20 @ 21
Prints, West. do do	18 @ 20
EGGS.—	
QUOTATIONS—M, mark; L, loss off.	
Nearby 1sts, ret'bl crates, L	23
Western firsts, free case, L	22 @ 22½
No. West. do do L	22½ @ 23
So. West. do do L	21 @ 21½
So. choice do do L	19 @ 20
Recrated eggs 1@2c. above wholesale prices.	
CHEESE.—	
N. Y., f. c.—	
Choice and fancy	10¾ @ 11
Fair to good	9¾ @ 10¼
State, part skims, prime	6 @ 8
Domestic Swiss, No. 1 new	13 @ 13½
GREEN FRUITS.—	
Plums, N. Y., 8-lb. basket	
Burbank	15 @ 18
Damson	20 @ 25
Reine Claude	20 @ 23
Green Gage	20 @ 23
Peaches, Del. & Md., bas.	1.50 @ 1.75
Mich., per bu. bas.	1.75 @ 2.25
N. Y., per 2-bas. crate	1.25 @ 1.75
Grapes—Del. & Md.—	
Concord, per carrier	60 @ 75
Moore's Early, carrier	60 @ 75
Nearby, 8-lb. basket	15 @ 18
Watermelons, So., car	125.00 @ 150.00
Cantaloupes—	
Del. & Md., fancy, crate	1.50 @ 2.00
Del. & Md., ordinary, crate	50 @ 75
Jersey, per ½-bu. bas.	15 @ 50
Col. Rocky Ford, crate	3.00 @ 3.50
APPLES AND PEARS.—	
Apples, per bbl.	2.00 @ 3.00
Per basket	25 @ 75
Pears, N. Y. Bartlett, bbl.	3.00 @ 4.00
Clapp's Favorite, per bbl.	2.50 @ 3.00
POTATOES.—	
Jersey, prime, per bas.	25 @ 28
Sweets, Va., pr., yellow, bbl.	2.00 @ 2.25
do Jersey, ⅝-bu. bas.	50 @ 60
BEANS AND PEAS.—	
Beans, marrows, H. P., bu.	2.85 @ 2.90
Pea beans, H. P., 1902, bu.	1.90 @ 2.15
Green peas, per bu.	1.50
Scotch peas, per bu.	1.55
COTTON.—	
Cotton, per cwt.	12.25
FEED.—	
Bran, bulk, winter, per ton	18.50 @ 19.00
Bran, sacked, spring	18.50 @ 19.00
HAY AND STRAW.—	
Timothy, new, No. 1	15.00 @ 15.50
new, No. 2, small	13.50 @ 14.00
Timothy, mixed, new	13.00 @ 13.50
Straw, new, straight rye	16.50 @ 17.00
Oat	8.50 @ 9.00
Wheat	8.00 @ 8.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle firm for good grades.

Extra steers	5½ @ 5¾
Good steers	5 @ 5¼
Medium steers	4½ @ 4¾
Common steers	4 @ 4¼
CALVES.—	
Veal calves active.	
Extra calves	7½ @ 8
Fair to good	6¼ @ 7
Poor and common	5 @ 6
Grassers	3 @ 4
HOGS.—	
Hogs active.	
Fat hogs, Pa. & Del.	6¼ @ 7¾
Fat hogs, Western	8 @ 8½
SHEEP.—	
Sheep and lambs active for good grades.	
Sheep, extra	4½ @ 4¾
Sheep, good	3¾ @ 4¾
Sheep, medium	3 @ 3½
Sheep, common	2 @ 2¾
Lambs	4 @ 6½

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NEW YORK MARKET REVIEW.

New York, Sept. 12, 1903.

Between the unfavorable reports from the cotton crop, the Treasury's financial measures to relieve the banks during the crop season, a cut in pig-iron prices, lower grain rates on railroads, and other questions of national import, the market has had plenty of topics to keep up interest from day to day. With the exception of the cotton situation there have been few fluctuations of importance. Wheat exporters are not doing a heavy business this fall, and their orders require prices much below the present schedule. It is a case of wheat being worth more at home than abroad, with a tendency to slight advance. Corn is quiet and prices slightly lower; there is a firm market for oats, with increase of ¼@½c. for white; rye inactive and a shade lower; barley dull, prices stationary; a steady market for hops on reports of improved quality in new crop, growers holding for higher prices; receipts of hay are heavy, with active demand, prices easier and in buyers' favor. Arrivals of butter were very liberal, but prices were held firmly and buyers took all desirable lots at ruling rates, quality determining the price. 20c. being the top quotation for extra creamery, the same as last week. Cheese has advanced, the price now quoted for State full cream being 10¾c. The recent high price of eggs has resulted in increased receipts from all sections, the arrivals on Wednesday alone being over ten thousand cases, cooler weather materially benefiting both seller and buyer. Prices ruled from 27c. for nearby selected stock down to 19½c. for refrigerator firsts. Prices hold firmly for choice live poultry and receipts were heavy—21 carloads being the total for a single day. Apples, pears, grapes and plums are in liberal supply with lower prices. Potatoes and tomatoes are coming in great volume, and the tendency is lower prices except for choice stock.

WHEAT.—	
No. 2, red	86
No. 1, No. Duluth, new, f.o.b.	92½
CORN.—	
No. 2	58¾
No. 2, f. o. b.	59¼
OATS.—	
Standard, white	42 @ 42¼
No. 2, white	42¼ @ 42¾
No. 2, white clipped	43¼ @ 43¾
HAY AND STRAW.—	
Timothy, pr., l'rg bales, cwt.	92½ @ 1.00
do No. 1	87½ @ 90
do No. 2	80 @ 85
Straw, long rye, per cwt.	75 @ 1.00
BUTTER.—	
Creamery—	
Firsts to extras	20
State dairy, tubs—	
Firsts	17 @ 18
Western Factory—	
Firsts, current make	15½
CHEESE.—	
State, f. c., small, fancy	10⅞
Good to prime	9½ @ 10
Large colored, fancy	9¾ @ 10¼
Large white, fancy	10½
EGGS.—	
QUOTATIONS AT MARK.	
Nearby, fancy selected, white	25 @ 27
Mixed lots	24
State and Pa., f. g., extras	24
Seconds to firsts	19 @ 21
LIVE POULTRY.—	
Spring chickens, nearby, lb.	13½
Southern, per lb.	13
Fowls, per lb.	13
Roosters, per lb.	8
DRESSED POULTRY.—	
Turkeys, spring, d. p., lb.	18 @ 25
Scalded, per lb.	15 @ 20
Old, mixed, per lb.	14 @ 16
Broilers—	
Phila., fancy, large, lb.	20 @ 21
Phila., mixed sizes, per lb.	17 @ 18
West, d.p., fancy, lb.	14 @ 15
Fowls—	
Ohio & Mich., scalded, lb.	13
West., d. p., av. best., lb.	13
Scalded, av. best, per lb.	12½
Old cocks, per lb.	8 @ 8½
Spring geese, East., per lb.	17
APPLES AND PEARS.—	
Apples—	
Snow, per bbl.	2.50 @ 3.00
Crab, per bbl.	1.50 @ 2.00
Fall Pippin, per bbl.	1.50 @ 2.00
Nyack Pippin, per bbl.	1.50 @ 2.00
Greening, per bbl.	1.25 @ 75
Baldwin, per bbl.	1.50 @ 75
Pears—	
Kieffer, per bbl.	1.50 @ 2.00
Clapp's Favorite, per bbl.	2.50 @ 3.50
Bartlett, State, per bbl.	3.00 @ 5.00
Up-river, short bbl.	2.25 @ 4.00
Seckel, per bbl.	3.00 @ 4.50
Cranberries—	
Cape Cod, bbls.	6.00 @ 6.50
Per crate	2.00 @ 2.25
GREEN FRUITS.	
Pineapples	
Fla., Red Spanish, crate	2.00 @ 2.75
Smooth Cayenne, crate	1.75 @ 2.50
Grapes—	
Up-river, car., Delaware	80 @ 1.00
Up-river, carrier, Niagara	70 @ 90
Moore's Early, per case	60 @ 75
Brighton, per case	50 @ 60
Worden, per case	60 @ 75
Concords, per case	50 @ 75
Muskmelons—	
Jersey, per bu. box	50 @ 75
Maryland, per crate	75 @ 1.50
Col. Rocky Ford, f'cy, cr't	3.50 @ 4.00
Pony crate	2.25 @ 2.75
Watermelons, per 100	7.00 @ 15.00
Per car, best	135.00 @ 150.00
Peaches—	
Maryland & Del., per bas.	75 @ 1.25
Western Md., per carrier	2.00 @ 2.50
Up-river, pony carrier	1.25 @ 1.50
Per basket	50 @ 75
Jersey, best, per basket	1.25 @ 1.50
Plums—	
Japanese, 8-lb. bas.	10 @ 15
Large, blue, 8-lb. basket	20 @ 22
Common, 8-lb. basket	8 @ 10
Egg, 8 lb. basket	18 @ 20
Damson, 8-lb. basket	15 @ 20
Blue Gage, 8-lb. basket	17 @ 20
Bradshaw, 8-lb. basket	22 @ 25
German prunes, 8-lb. bas.	20 @ 25
VEGETABLES.—	
Brussels sprouts, per qt.	10 @ 14
Cabbage—	
Per 100 heads	3.00 @ 5.00
Per crate or bbl.	60 @ 80
Cucumbers—	
Jersey, bu. box	80 @ 1.00
Per bbl.	2.50 @ 3.00
Cucumber pickles, per 1,000	3.00 @ 4.00
Celery, fancy, per doz.	40
Good to choice, per doz.	15 @ 35
Washed, per doz.	40 @ 50
Eggplants, Jersey, per bbl.	1.00 @ 1.25
Per bu. box	30 @ 40
Per ½-bbl. bas.	40 @ 60
Green corn, per 100	1.25 @ 2.25
Lettuce, Boston, per doz.	30 @ 40
Western N. Y., per case	1.00 @ 1.25
Lima beans, potato, per bu.	1.25 @ 1.50
Jersey, flat, per bu.	1.00 @ 1.25
Peas—	
Telephone, West. N.Y., bas	1.50 @ 1.75
Small, per bas.	75 @ 1.25
Peppers, Jersey, box	30 @ 40
Per bbl.	75 @ 1.00
Tomatoes—	
Acme, per box	60 @ 1.00
Choice Jersey, per box	40 @ 75
Russia turnips, per bbl.	1.50 @ 2.00
Onions—	
N. J. yellow, basket	1.00 @ 1.25
White, per basket	1.25 @ 1.75
White pickling, per bas.	1.50 @ 2.50
POTATOES.—	
Long Island, per bbl.	1.62 @ 2.00
Jersey & Md., round, bbl.	1.50 @ 1.75
Jersey, long, per bbl.	1.37 @ 1.62
Per bag	1.50 @ 1.65
Sweets, So., yellow, per bbl.	1.75 @ 2.25

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best five manuscripts that reach our desk before October 22. None considered unless sent direct to Mrs. V. C. Melville, Sun Prairie, Wis.

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A Mother's Love.

MRS. C. B. CORNELIUS.

A mother sat by her baby's side,
 Watching its slumber sweet,
Full of motherly grace and love
 Its op'ning eyes to greet.

Who can fathom a mother's heart,
 As she looks on that bit of clay?
Who can know with what perfect love
 She guards from day to day?

Her eyes grow dim, the lullaby stops
 That soothed to slumber sound,
This priceless jewel left to her,
 This treasure newly found.

Another life to her has come
 To guide, protect and love;
"O, give me strength to act aright,"
 She breathes to one above.

"To train aright, through childhood's years,
 Thro' paths of virtue trod,
Till full fruition stands complete—
 The noblest work of God."

Hardy, Ark.

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Editorial Chat.

We want to assure our readers that they may with safety sound the praises of the P. F. and give promise that it will be better than ever the coming year. For the H. C. we have many new plans, and to the end that it may come the nearest pleasing everybody, we want "everybody" to send us at least a postal telling how, in his or her opinion, it may be bettered. Don't find fault to our backs, just be honest men and women. We know we cannot possibly exactly suit all; that would be an impossibility where there are so "many men of many minds"—to say nothing of the women and children.

Please let us hear from all; tell of what you approve and what you disapprove; what you would like dropped and what taken on. Just let us have a real H. C. convention. How many of the sisters would like us to publish from week to week the program of our Twentieth Century Club? We mean, how many would like to, in a way, take up the work with us? We are going to travel in Germany from early October to early June. Will you go with us?

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All in a Life Time.—Part 11.

VELMA CALDWELL MELVILLE.

Dr. Harry Glen returned from his unrefreshing ramble barely in time for supper. His wife, to his surprise, was not at the table. Miss Langstroth supposed she was with him; Aunt Dawn thought she was in her room.

"Go see!" was the former's brief order, given in a tone indicative of annoyance.

"I will go myself," the doctor interposed, hurrying from the room. But, as the reader knows, Patty Pearl was not there.

Instantly a great dread took possession of him, but a thought of Aunt Ruth's letter entering his mind, he tarried a few moments looking for it. Another change of feeling made him thoroughly hate himself. He rushed down stairs, bade his sister not wait for him, and went to find Uncle Rasmus.

Miss Langstroth sat up very straight, her brows contracted, muttering something about "Northern manners." Uncle Rasmus thought he had seen "de missus" going toward the woods, though he could not be perfectly sure whether it was today or yesterday.

"Mebby she dun gone ter Massa Trainer's," the old negro suggested.

"You get on Donald and go see, while I walk a ways in the woods."

"'Pears turrible cut up!" muttered Uncle Rasmus, as he deliberately saddled the mule, "seeing she haint been missen more'n an hour."

Dr. Glen, hurrying down what was known as the "wood path," saw with dismay that twilight was already beginning to gather around. In all his life such a feeling of dread had never possessed him—a nameless, terrible dread not unmingled with remorse.

Poor little Patty Pearl! Had the death of her old lover driven her to desperation? The thought of her caring that had so goaded him all afternoon, seemed the least of his troubles now. He had been cruel to her. If he never saw her again—but what was that white thing by the path?

A little wool mitten—Patty Pearl's. For a moment his heart seemed to stand still, then turning he rushed back in time to see Uncle Rasmus disappearing leisurely down the road. Loudly he shouted:

"Bring Trainer and his men and the old hound. The mistress is somewhere in the woods. Make haste!" Back to the house he rushed, bidding Aunt Dawn blow the horn if the missing one appeared; then, armed with a lantern and matches he set out.

"What a fool a man can be, anyway!" was the sarcastic remark of Dewild Langstroth, as she watched the excited young husband out of sight. "One would suppose she had been missing a month at least. Harry never had any self control or repose of manner; neither had his father before him. Plebeian, the whole tribe!"

For all this outburst, however, Miss Langstroth went herself to examine the guest chamber, and finally, with a lighted candle she traversed all the halls of the old house, occasionally peeping into rooms and all the time listening intently. She did not even pause before the door of the small apartment where Patty Pearl lay sleeping, and her soft slippers gave out no sound.

"She is not in the house, of that I am sure," she declared to Aunt Dawn, on her return, with a strong emphasis on the "in." "She must have wandered into the woods and fallen asleep. She is so like a child anyway."

Aunt Dawn felt herself growing angry, for her affections were set upon the "young missus," but she never disputed with Dewild Langstroth. She dare do it, but she did not choose to. All night they searched, the distracted husband, kind old Colonel Trainer, his two negro men and Uncle Rasmus. Even Aunt Dawn, who wailed ceaselessly, and Miss Langstroth, cold and silent, made frequent short excursions into the woods. But poor old Judge had had a sick spell and no amount of coaxing would make him seek the trail. Indeed he had to be carried part of the way between his home and The Place, and then he crawled in on the porch and lay down, occasionally whining a little, as if in apology, but nothing more.

It was after midnight when Harry Glen, white and disheveled, came in and sent one of the negroes to a plantation five miles distant to bring a bloodhound; and it was the baying of this animal the next forenoon that Patty Pearl heard.

"The massa aint here," Uncle Rasmus said, "but he lef de mitten. He say specially yo not to let loose de rope; jes foller 'long. Dat beas' come down from a nigger hunten strain 'nd mebby aint safe. Yo understan?"

Just then it was that Patty Pearl's whistle sounded, though no one but Judge took any notice. Instantly he lifted his head and listened. At the second call, all his aches and lameness forgotten, he bounded off the porch, over the rickety side gate and through the tangled garden.

"What all dat dog?" cried one of the men, while the other, all the superstition of his race instantly aroused, whispered: "Listen! Hark! 'Pears like—" but Aunt Dawn was on the dog's track now, and in a minute more came back rolling her eyes wildly:

"Shore, 'tis the young missus or a sperrit."

"What foolishness is this, Dawn?"

It was Miss Langstroth's voice from just inside the kitchen door.

"Shore, missus, it aint no foolishness, 'less Dawn gone 'mented. It's de young missus herself a breaken de winder in de little room dat Massa Harry had when he was a boy."

"Come, some of you, and we will go and see," said Miss Langstroth, but as no one volunteered, she indicated the more burly of the two Trainer negroes.

As the two moved off Uncle Rasmus and Aunt Dawn fell into line, the former with her apron over her head, sobbing softly. She was afraid to go, but more afraid to leave Patty Pearl to the not always tender mercies of her sister-in-law. Arriving at the door of the room supposed to hold Mrs. Glen, Miss Langstroth knocked.

"O, I can't open it; I am locked in," cried the prisoner. "You will probably have to break in."

"Shelby, force that door."

Miss Langstroth gave her orders with the air of a great commander. One powerful lunge of the man caused the old lock to yield, and Patty Pearl took an eager step forward, with arms half extended, to be clasped to her husband's breast. She had pictured it all in the brief period that had elapsed since her discovery. In that first moment of meeting she would reveal her heart to him and answer once for all the question he had put to her one week before.

But what she saw as the door swung back was Shelby's ebony features, distorted by fear, Aunt Dawn's tearful countenance and the cold, pale face of Dewild Langstroth.

A moment of silence and then Aunt Dawn rushed forward pouring out endearing epithets. Patty Pearl burst into tears and hid her face on the black woman's shoulder.

Miss Langstroth came forward saying sweetly:

"Such a fright as you have given us all, child. What possessed you? My poor brother is quite beside himself."

But the girl only sobbed on as Aunt Dawn led her down stairs. Someone sounded the old horn and by noon the searchers were all in, Dr. Glen last of all. The man was completely worn out, and his face plainly showed his great mental suffering. He almost staggered as he came into the room, but Dewild was there and—well the meeting was restrained, and another golden opportunity lost. When Patty Pearl tried to explain, it all sounded very lame. She was conscious that neither of them could see any good reason why she should go to such a far-off, uncomfortable room at all, much less lock the door. She knew that in his heart her husband believed that she went there to mourn for Jeff; she knew that he strongly suspected why she shot the bolt—she wanted to get away from him and everybody.

Miss Langstroth attributed it all to childishness. After dinner the doctor went to bed; his sister dozed in her chair and Patty Pearl pretended to read.

That night Dr. Glen said, in the presence of Miss Langstroth: "The day after tomorrow, Pearl, we will go home."

(*To be continued.*)

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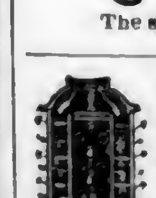
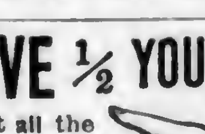

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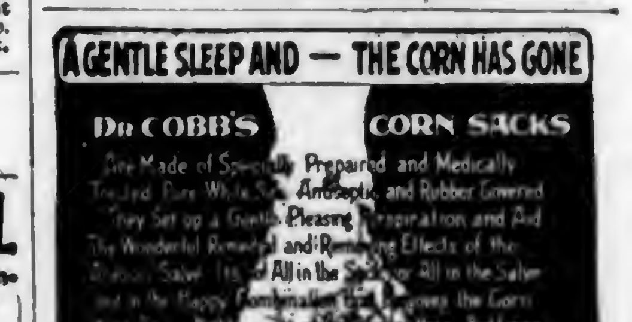

A GENTLE SLEEP AND — THE CORN HAS GONE
DR COBB'S CORN SACKS

ARABIAN YANKEE CURES 1846 W. 5TH ST. LOS ANGELES, CALIFORNIA

In The Sick Room.

C. B.

How often it happens that sickness, and sometimes death, enters our homes and finds us unprepared, both in the line of remedies and suitable clothing. Now, we should at all times keep on hand such common remedies as camphor, alcohol, peppermint and cinnamon essence, hartshorn, ginger, mustard and some good liniment, and salve. Also rolls of soft old linen or muslin cloths. A rubber hot water bottle comes very handy, but in the absence of one, large bottles which can be filled with hot water and tightly corked, then wrapped in dry cloths, will answer instead. The sick room should be the most cheerful room in the house. It should be properly ventilated. The bedding must be scrupulously clean and frequently aired; and the room should have a thorough

airing on nearly every pleasant day. This can safely be done, even in mid-winter, by covering the patient well in bed, over head and all, so that no cold air can reach him. Then open doors and windows and allow the fresh air to penetrate the room thoroughly. Then close and allow the atmosphere to become slightly warmed before uncovering the head of the patient. The room should be light, but the light should not be full in the patient's face. This may be avoided by placing a screen in such a position as to protect the face. Light blankets are best for coverings, but cotton sheets are preferable to woolen next to the sick one. They do not cause that itching feeling that woolen ones do. They, however, should be properly warmed before putting on the bed. Besides, they are much more easily, and consequently more frequently, washed. Changing the sheets of a very sick patient is often considered a difficult task. Now in this, as in other matters, there is a right way, and the right way is usually the easiest, when once understood. Move the patient close to one side of the bed, turn the under sheet over in a smooth roll close to the invalid. Make one-half of the clean sheet into a smooth roll and lay it close to the invalid beside the other roll. Spread the other half smoothly over the vacant side of the bed. Do all this without removing the covers if the weather is cool. Now assist the patient onto the clean sheet, draw away the soiled one, unroll the fresh one smoothly over that side of the mattress. Have the upper sheet ready and baste it to one edge of the soiled upper one, then, without removing the other covers, draw the soiled sheet away and the clean one will follow and take its place. Clothing can be changed by turning the patient first on one side and then on the other and gently working them on and off, and in giving a bath to a very sick person, it should always be done under a blanket to avoid exposure. The doctor, of course, should advise about the temperature of the water; also about putting in drugs or anything to make it a medicinal bath. The patient should be gently rubbed and patted until quite dry. In giving medicine or food, if the patient can endure it, it is well to prop him up with pillows at his back. Sometimes he seems to stand it all right, but in a little while he throws up all he has taken. Now, in most cases this vomiting can be avoided by having the patient lie flat on his back, head slightly raised, and the nurse give him his food and drink with a spoon while in this position. It is not a difficult matter and no danger of choking if properly done. In giving strong medicine it is sometimes best, in order to save the teeth, to give it through a tube. The doctor sometimes furnishes a glass tube, but otherwise, a pipe stem, or the hollow handle of a Japanese fan can be used. Now about the clothing. How nice it is if proper clothing is on hand. I have been called to places where there was not even a nightgown to put on. Being some distance from town we cut up good sheets and made some. Sometimes some were borrowed of the neighbors for the occasion. It does not take much time or money to have at least two good nightgowns. And in regard to the bed clothes. I have seen old, faded, and even ragged quilts on the sick bed. White spreads are so cheap now that every family ought to have at least one; and these soft cotton blankets are cheap, also. How much better the pillows look with lace on them, or even a row of hemstitching to relieve their plainness. The room and all its furnishings must be clean and in order. All these things will tend to have a good effect upon the sufferer.

Franklin Co., Kan.

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Our Shut-ins.

Ellen Kinney, Brockport, N. Y., writes: Dear Mrs. Melville: I am going to write you a few lines to say that when mother came from the postoffice this morning she brought such a lot of blocks, so many that I now have seventeen more than enough for my quilt, and a lady away out in Kansas sent beautiful gingham enough to line the quilt. Will you please tell the H. C. sisters about it all? Mrs. Melville, when I look back to one year ago the tenth of last April, and remember what my poor, darkened life was before that, and then think of the cheer and loving kindness that has come into it since, my heart goes out in gratitude to God for raising me up such kind friends. And don't I know I owe it all to the P. F.? Why, I did not even know there were such nice things in the world, or could be made, as have been sent me. The loveliest sofa pillows and perfumes and flowers, and—but I could not begin to mention all the beautiful things that have come from almost every State in the Union, if I tried. I can only ask God to bless the kind donors who have so helped me bear all these weary months of pain. Besides, there have been many little gifts of money that have made it possible for me to have necessary medicine and little things that I could eat. Those who sent funds toward a hammock usually said, "or for whatever you need." Now I could not by any possibility get into a hammock, and so I used it for the things here mentioned. Again I thank them all for their kindness. How much it is to me they will never know—at least, not in this life. I have taken cold and have a bad cough and much pain in my back. Sometimes my sufferings seem more than I can bear, and I can but pray that the time may be not far when I can lay my burden down; "lay down the cares and take up the crown." With love to all I am your shut-in sister.

[We take pleasure in presenting this letter entire this time. We want to add our thanks to hers for the kindness of the sisters.—ED.]

* * * * * * * *

We are reminded of an editorial we yesterday clipped from the Milwaukee Journal, and which we append because—well you will know why when you read it.

"'To the Editor of The Journal: We women thank you for your editorials. Sometimes we are tempted to think nobody cares for the uplifting of humanity. But we feel sure The Journal is honestly trying to make this a better world to live in.'

"Nobody cares? Don't you believe it. The heart of the world beats true when the mind of the world thinks true. We are living in an age of unexampled prosperity. Men grow rich, 'beyond the dreams of avarice,' almost in a night. 'Everybody' has money to spend, and, spending it, grows careless. On the surface selfishness seems supreme. But human nature at the bottom is unchanged. And men and women love their fellows as well, aye, better than ever before.

"Do you remember when Topeka and Kansas City and a score of lesser towns were flood swept last spring? A mighty cry went up, East and West, North and South: 'What can we do for you? What do you need?'

"Remember the millions raised to feed and clothe the hungry and naked in the anthracite regions last year?

"Remember the thrill of horror which ran around the world when the Jews of Kishineff were mobbed? When the king and queen of Servia were assassinated? It's all from the same source—the desire that the world live better; that crime and immorality and suffering come to an end.

"Sometimes a weary man or woman, burnt out, despairing, cries: 'Why live longer? Nobody cares. In all the world no one will shed a tear that I am dead.' It's not true.

"In this great city there is a heart to beat in sympathy for every pang you feel. You may not meet your friend and sympathizer, but he exists. The failure to meet is one of the tragedies of life. But the sympathy is ready when you do meet. Why, not a mongrel cur can pant out his last breath in agony on the street but some big-hearted man or sweet-souled woman feels a pang to see it.

"How much more when a brave but defeated human being cries for help?

"'Be still, sad heart, and cease repining;
Behind the clouds the sun is shining.
Thy fate's the common fate of all;
Into each life some rain must fall,
Some day be dark and dreary.'"

Yes, somebody cares, and the life of a pain-racked shut-in is as important in the eyes of Omnipotence as is the life of a Gladstone. The secret of happiness and success is to be content and faithful—

"You in your little corner,
I in mine."

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Correspondence.

Mrs. Josephine Hasemann, St. Bernard, Neb., writes: I have long been a silent reader of the H. C. and can hardly wait each week until its arrival to see what the friends have to say. I am very grateful to the H. C., as I am the Nebraska woman to whom some of you sent seeds in '94—when we had none—accompanied by many good wishes. We have some of that strain of seed yet. We have had good luck ever since. I want to tell how I pickle beans, for it is about time to pickle them. In the morning when they are cool and crisp, gather, wash and put in a five or ten-gallon jar or keg and cover with brine strong enough to hold an egg, and put a weight on them. In winter when I have a big fire going, I bring one gallon from the cellar and boil them, changing the water until they taste right. Then I dilute vinegar and put that on the beans and set them in a cool place, and they are ready for use when wanted. If you have unexpected company you can make beanslaw by cutting some slices of onions with your beans and adding pepper and a cup of thick sweet cream. Or one can warm them up, adding a few spoonfuls of lard instead of the cream. When I have empty Mason jars, I put some of the beans in them, adding some bits of cucumber pickle and onions. I put the mixture on the stove with vinegar, sugar and mixed spices. Then I thicken with mustard flour or ground mustard. This is fit for a king to eat. In the brine the beans will keep from one year to another. I have about five gallons in the cellar yet from last year and am going to put up a new supply tomorrow. I have given to all the neighbors who did not have. I have a large garden and small family. I often wish some of the poor in cities could share my abundance. Everything looks fine now and we have plenty of rain. I must stop now without saying a word about my chickens and flowers. I love to read "Among the Flowers."

A Delaware reader who wants her name suppressed, writes: Dear Mrs. Melville: Seeing a request for directions for canning corn, I send the following, learned from the P. F. some years since. It is fine. Ten cups of corn, cut from the cob, one cup of sugar, one-half cup of salt. Add water enough to cook it tender and can as you would can fruit in glass jars. It is necessary to soak or boil the corn before using, but the sugar helps to replace the sweetness that is soaked or boiled out. By experience I find that the younger and more tender the corn is the better it is. I have given the recipe to several and all like it. I greatly enjoy the H. C. and enclose one dollar to be used as you see fit for the shut-ins.

[We thank the sister for her gift, and hope that others may add to it. Now that the season is so far advanced, it would seem to us better to spend what we collect for winter clothing. Let others intending to help respond promptly. We will divide the money equally between Miss Kinney and Miss Sheppard.—ED.]

Kate Barnard, Ringwood, Ill., writes: My Dear Mrs. Melville: That last letter of mine in P. F. brought requests for pansy plants from fourteen States. Have sent over 3,000 plants, but they are all too large now, and spoiled for transplanting. Would like to say I have sent plants to everyone who asked up to date (Aug. 15), so if they have not received them I am not to blame. Only four have written acknowledging the receipt of them. I received some lovely, interesting letters about plants and the country where the writers lived. Am answering them as I get time, but it has kept me very busy getting the plants ready. Am also getting my exhibit ready for the county fair, as far as possible; have fifty bundles of grains and grasses prepared; will have about ten more of millet, soy beans, cow peas, etc. A number asked me to write "special directions" for raising pansies, but I do not have any. I started our first bed by sowing the seed bought of Wm. Henry Maule, right where we wished them to grow, the first of May; saved seed from those and bought started plants in hotbed to transplant the first of May, every year since, but the original bed is fine yet; self sows itself every year. We thin them out every spring and add a pail of manure water occasionally. Think if those who have such poor success would try sowing the seed this fall, in October, they will have no trouble to get them to grow. They will blossom then the last of June. 'Tis better to sow aster seeds in the fall also, as it is so hard to get the ground prepared in time in the spring while it is moist enough to sprout the seed quickly. Our flowers are fine at this time. We are enjoying them, also sending bouquets to our less fortunate friends; that gives a double pleasure. We enjoy sending, they receiving. We have white, yellow, pink and red gladioli in bloom, but our tuberoses have not sent up a blossom stalk as yet. Have two varieties of roses in bloom this month, red and pink. The quickest growing vine we have here, also one of the prettiest, is the wild cucumber. It is in blossom now; so is the purple dolichos. We have those and the Crimson Climber bean at porches; red, white and blue flowers at the same time. We have some fine cobeas, too. Think we shall have to send you a box of samples. With best wishes to all the H. C. sisters.

[We received a box of flowers without name or address, so we conclude they may have been beauties when they started, but cut flowers cannot stand transportation. We thank you, just the same. You ought to include morning glories in your collection, for they are so beautiful. We have them covering two dead tree trunks and climbing up into the branches. The blooms are that indescribable red—the queen of morning glories. We feast our eyes upon them all forenoon. Our plants and flowers have done wondrous well this wet season.—ED.]

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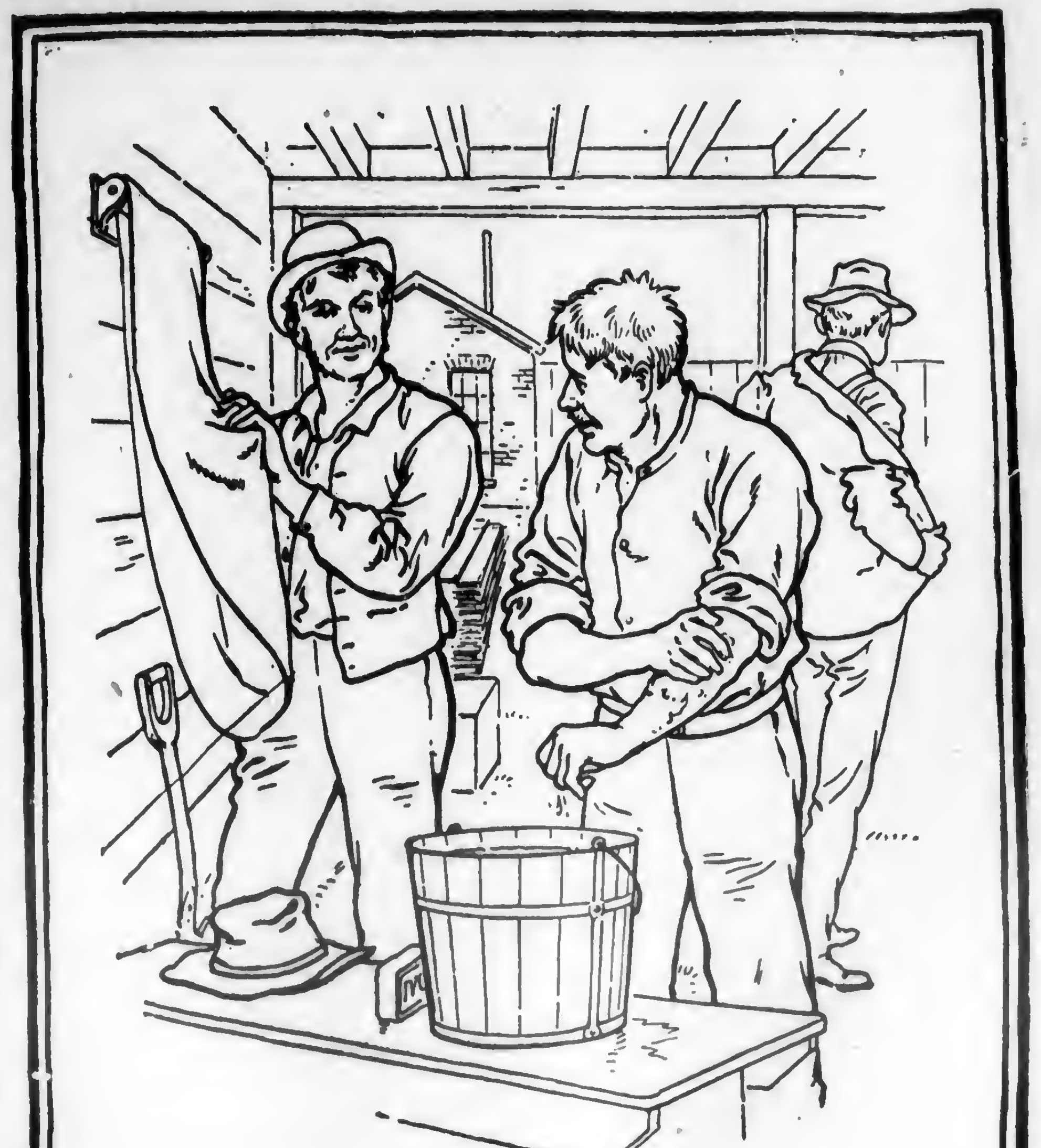
CATARRH CAN BE CURED.

Catarrh is a kindred ailment of consumption, long considered incurable; and yet there is one remedy that will positively cure catarrh in any of its stages. For many years this remedy was used by the late Dr. Stevens, a widely noted authority on all diseases of the throat and lungs. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all sufferers from Catarrh, Asthma, Consumption, and nervous diseases, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing, with stamp, naming this paper, W. A. Noyes, 847 Powers Block, Rochester, N. Y.



Workingmen will find it poor economy to employ ordinary laundry soaps for personal use. Those soaps contain free alkali, which injures the skin, and makes it rough and sore. Ivory Soap is pure, and is soothing to the skin; it is cheap enough to be within the reach of all.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 592, Oct. 3.—*The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?*

Topic No. 593, Oct. 10.—*Have You Tried Any of the New Irish Potatoes Which Have Been Introduced? If so Give Your Experience with Them as to Yield, Earliness and Quality.*

Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 590.—What Form of Two-Horse Cultivator do You Prefer, with Tongue or Without? With Disk or Hoe?

William E. Bouck, R 2, Grand Rapids, Mich.—I use the surface cultivator for general farming. It has four knives about 2 feet long, 3 inches wide, and ¼ inch thick, set wider apart in front than in rear, and cuts all weeds and soil between the rows up to 48 inches wide. It can be adjusted as required, knives wide apart or close together; deep or shallow; and to ridge or leave the land level. There are paddles in the rear, one on each side, that pull out the loosened weeds and expose the roots so that they soon die. The paddles crush small clods and level the land, leaving a mulch that prevents the soil drying out, as it otherwise would, in very dry weather. As it is a rider, it is fitted with tongue, and is the easiest to operate that I have used, though I have tried two spring tooth and three rigid-shank riders. I have used it in Illinois, Kansas and Michigan; in black soil, red soil, clay, sand and among stumps and rocks. While it has done good work in stumps and rocks, I would not recommend it where there is an abundance of stumps or large rocks. It gives the ideal shallow cultivation necessary to the growing of large yields of corn. In my experiments with it I have found the use of the surface cultivator gives from 10 to 25 per cent. larger yields than with the large shovels and deep cultivation. This was especially noticeable in 1901 (in Douglas Co., Illinois, where I then lived), this being a very dry year. By comparing the wagon loads the yield was about 30 per cent. more in bulk on the shallow cultivated land, than where it was deeply stirred, and as the heavier yield was more solid, the weight might have shown a greater difference. The shallow cultivation did not disturb the roots of the corn to any extent, and left a dust mulch which prevented as great a loss of moisture from the soil compared with that of the large shovel cultivator. I use the surface cultivator from the first plowing to the last, as it can be adjusted so as to run close to the row when the corn is small, and cover but few hills of corn, while in the last cultivation the knives can be set to run deeper out at point, and shallower at the heel near the row, thus not cutting the brace roots but still throwing a slight mulch around the corn.

Nathan Clair, Newhall, Mo.—After a number of years experience in the use of the cultivator, I have decided that a 6-hoe, 2-horse cultivator is best for a general purpose implement. The disk cultivator is a good tool when the corn has grown to a size to permit of throwing the soil toward the row, but for the first workings, when the disks are turned away from the row, the work is not satisfactory. Even when the plants are small, the hoe cultivator will work the mellow soil under the fenders, thus covering the small weeds that are just starting, but this is not the case with the disks when they are turned away from the row. Where one has reasonably smooth land and good teams, I would always recommend the purchase of a riding cultivator. I have used one now for the past seven or eight years, and now feel that I would almost have to quit farming if compelled to use a walking cultivator. The tongue cultivator has some advantages over the tongueless. This is especially true in moving on the road or from one field to another.

W. D. Latshaw, Carlisle, Ind.—My experience with 2-horse cultivators has been confined to those with tongues and hoes. Some of my neighbors have bought tongueless cultivators, but as soon as they wore them out they were always succeeded by those with tongues. The disk cultivator, like the tongueless, never became popular here. The fact that I do not know of one in use in this neighborhood at the present time, proves their unpopularity. My choice of a 2-horse cultivator is one with a tongue and supplied with four bull tongue shovels and an eagle claw attachment with eight small shovels. A cultivator thus equipped is capable of doing almost any kind of work of which a cultivator is capable. I think it is much more economical to keep one implement equipped for all kinds of work than it is to be compelled to keep two or three implements to accomplish the same purpose.

Wm. Lea, R 4, Marietta, Ga.—We would at all times and conditions prefer a cultivator with a tongue, though where the land is level and the rows can be run straight, a tongueless cultivator is O. K. But in this section of the country, where the land is rolling and hilly, the 2-horse cultivator must have a tongue, and it should be a vibrating one, or on pivot wheels, so as to be guided through crooked rows. Our rows are laid off with the contour of the hill, the land being terraced and the rows, of course, are laid off with the terraces. With such rows it would be almost impossible to cultivate without pivot wheels. We have used 2-horse cultivators for two years on pretty steep hillsides with entire success. We want the lever that works a vibrating tongue to extend back towards the seat between the knees, so as to be in easy reach of either hand at all times. With a lever in this position the operator can instantly dodge a stalk of corn or make a sharp curve in the row with ease. Being an advocate of level, shallow cultivation, we could not recommend the disk to be used at every time of cultivation. It has been our experience that the disk always threw too much dirt to the crop. Most manufacturers of cultivators make them so that they can use the hoe or the disk, so the hoes can be used to cultivate crop while small and at the last plowing can use the disk if one wishes a little dirt thrown to the crop. It is a matter of how one cultivates his crop, as to preference of hoe or disk. If you want a bed put to crop, more or less, then use a disk; if not, and one wishes to keep land perfectly level, will have to use the hoes. It has been our experience that the disk beds the land, so we have left the disk off until last plowing, when we do not object to have some dirt thrown to the crop. Our experience with the use of 2-horse cultivators has been only on the corn crop. We have used them for several years, but they are not in much favor in this section as yet.

Martin Stinson, Eden Centre, N. Y.—I prefer the Buckeye 2-horse cultivator with tongue and straight axle. Has four teeth on a side, one of them being a swing tooth on each side, which is guided by the feet, and this enables one to swing in between hills or where hills are missing. We find we can cultivate much closer than can be done with a pivot-axle, the teeth being hung on a swivel so they can be changed easily so as to throw the dirt toward the hills or from as desired. We prefer the hoe, using thistle-cutters for cutting thistles or grasses. I find I can do a much better job and am thus saving one man's time.

John W. Mitchell, R 3, Pulaski, Pa.—I have found by use and experience that a 2-gang, 2-horse sulky cultivator with tongue and hoe shovels is the best and most practical for the farmers in this locality. I use a Fremont or Famous Ohio sulky cultivator, and think it as good as any on the market. It has steel wheels and wooden frame. I can work almost any kind of rowed vegetables or grains with it and hill corn to perfection. It runs easy. Two medium weight horses can work corn all day with it and not be tired. I think all 2-horse cultivators work best with a tongue, and the Fremont or Famous Ohio cultivator, which costs about $25, is as good as any for general farm use.

Theo. C. Vliet, Whitehouse, N. J.—I have used both kinds, with and without a tongue, and prefer the one without a tongue. We use the Kugler. It has runners that it works on, with two small plows on each side of the row that you can change to plow from or to the rows. It does good work.

S. S. Brooks, Toledo, Mo.—After using the walking shovel cultivators, with tongue and without, for 20 years, and disk for 8 years, I have now used the riding shovel cultivator exclusively for three seasons and much prefer them in corn to any others used. The disk makes too much ridge. The walking cultivator cannot be run an even depth, and cannot do as nice work, and there is much more labor attached to the use of it. The riding shovel cultivator is so adjusted as to shift the plows very easily and to plow an even depth, deep or shallow. By using an implement of this kind and plowing shallow, except when corn is very small, cultivating level from beginning, with the weeder used in connection from the start until it becomes too large for cultivator or weeder, then about two or three times with 1-horse cultivator, as it becomes necessary, makes it very easy for me to make from 10 to 30 bushels more corn per acre than some of my neighbors who farm like their grandfathers did instead of putting into practice the teachings of the P. F.

Chas. J. Moore, R 2, Morrisville, Vt.—A 2-horse cultivator should have a tongue. It helps to guide and steady the cultivator, and is a necessity in turning at the end of the row. The best cultivator for the average farmer here is made with spring teeth; the teeth are similar to the teeth of a spring-tooth harrow; they stand about 20 inches high. It is made V-shaped, with split tongue, so the operator can see the row, and has handles to guide it with. It straddles the row. The teeth are clamped to the frame; the front ones can be adjusted, up, down or sidewise, to suit the size of the crop cultivated, so as to throw the dirt around the corn or potatoes and hoes them to perfection. No hand work to do.

Walter Hickman, Tipton, Mo.—I use a parallel beam walking cultivator with tongue. With parallel beam your plow always sets to the dirt just the way you wish, but with the other kind, when you put out or in to dodge a hill of corn your plow does not set right. There are a great many of my neighbors using disk cultivators but I do not like them, as they cut too many of the roots of the corn, and if the corn is not planted very straight you cannot plow it crosswise. Some of the farmers here plow the straight way with disks and then the other way with walking cultivator, and they always raise better corn than the ones that plow altogether with the disk. The disk is nice to lay by or finish up with, as you can make the field look nice with it.

C. C. Beals, Russiaville, Ind.—The cultivator used with us has a tongue and is fitted with hoes. With our soil they give good satisfaction and do good work. The disk plow is not used here. On some soil the disk shovel would do better work, but with us the hoe and tongue 2-horse cultivator is the best.

Lewis J. Gregson, R 2, Red Bud, Ill.—I live in a neighborhood where there are a great many 2-horse cultivators of both kinds used, disk and shovels. But have never seen one without a tongue. With a tongue in a cultivator the horses can steady the machine better, and I think enables the man to guide it better. I have a 2-horse riding cultivator with a tongue, called the Tiger cultivator, manufactured in Ohio, and I would not trade for any other kind that I have seen. In regard to disk and shovel, there are but few disks used around here; the most have shovels, and I think I would prefer them to disk. In cultivating the corn a person can regulate the defenders and cover up small weeds better with shovels and not ridge the ground so high to the small corn, and I think they stir the ground better than disks.

A. J. Harmon, Andover, O.—Have never used cultivator without tongue and do not care to, as the tongue is needed to give the cultivator the rigidity that is required on our land in this section. In the West they may be practical, but not for the East. I prefer a pivot axle, narrow-tooth, riding cultivator. The spring-tooth does not give satisfaction here on the clay; we use the eagle claw. Never had any experience with disk cultivator, but can not see how they would be an improvement on the hoe, as disks move the earth to one side to stir the ground thoroughly, thereby destroying level culture. A pivot axle works better on a hillside or on crooked rows, or, in fact, anywhere, than a straight axle with pivot gangs. They are less tiresome to the operator, will follow the row if the team is not just where they should be, and their work is far superior to the rigid axle cultivator. The Iron Age, Buckeye, Standard and Kraus are the most used here. I use and prefer the Kraus, but the kind is largely a matter of taste.

John F. Zook, Belleville, Pa.—We use an Albright riding spring-shovel cultivator with a tongue. I don't think a tongueless cultivator would be very good where it is hilly. We use the hoe; have not used the disk. Use small shovels, five on each side, 1½ inches wide. The more small shovels the better. It leaves the ground more level than larger ones.

Joseph E. Fischler, R 3, Wellsboro, Pa.—Have never used a 2-horse cultivator without a tongue, and do not think I could use one to cultivate corn or potatoes, as my land is quite stony. Have found a 2-horse cultivator with a tongue very satisfactory, as the work can be done as well, or better than with a 1-horse cultivator, and it saves the price of one man, which is quite an item where much cultivating is done. It may be interesting to some of the readers of P. F. to know what kind of cultivator I am using. It is a broadcast seeder made by the American Harrow Co. The harrow is made in three sections. By removing two nuts the seeder box can be taken off. The middle section can be taken out and cultivator shield put on and you have as good a 2-horse cultivator as can be found with hoe. Have never used a disk, so do not know anything about them. The above cultivator is perfectly adjustable so a man can handle at his pleasure, and 15 minutes makes the change, making two good tools out of one.

M. L. Jordan, Woodford, Ohio.—We think that a 2-horse cultivator with a tongue is better than one without, because when there is no tongue in a 2-horse cultivator the horses are more apt to step on the corn and get across the row oftener, but where there is a tongue we think that the horses are not so apt to step on so much corn and get across the row. And in turning around at the ends the cultivator that has a tongue is more easily turned than the one without a tongue. But with the tongue in the cultivator, in turning, the tongue will fly up with the neck-yoke attached and hit the horses under their necks, but anyone can avoid this by just stepping off at the end of the row, and then the tongue and neck-yoke will not hit the horses, but aid in turning around. In regard to the disk shovels and the hoe shovels we think the hoe is the best, for the reason that the hoe will do better work in harder ground than the disk will in the same ground, and also in part stony land the hoe will do better work than the disk, for the hoes will go down in the ground and dig where the disk will jump over the stones and will not go in as good as a hoe will. We think that the tongue in a 2-horse cultivator is better than the 2-horse cultivator without the tongue, and that the hoe on the cultivator is better than the disk, in this locality.

Maurice Wentworth, Dover, Me.—My experience with 2-horse cultivators has been limited. Five or six years ago I thought I had not any use for one, as with my Planet Jr. No. 8 I could do as well or better work than the 2-horse. But for thorough work in the spring, and first one or two cultivatings, the 2-horse cultivator fills the bill. I have only used one without a tongue, but did not like it. It was too hard to steer the teeth, as the horses were hitched so as to pull half of it. Of the tongue have used and seen work the Buckeye and Iron Age Nos. 60 and 70, and Kenwood. They are all good tools, but fail to pulverize the ground in good shape. Also tried the Planet Jr. 2-row, pivot wheel cultivator. The greatest trouble with this tool is that you cannot work close to the plants, and it will clog some. For working two rows at a time it was a failure. Any of the 2-horse cultivators will work when doing shallow work. The 20th Century Hench is a pretty working cultivator, but it does no better work than the Kraus. The cultivator that will do the most work and not clog, and pulverize the ground and shake the dirt from the weeder is the American, manufactured by the American Harrow Co., Detroit, Mich. This cultivator is hard to handle for man and team, but does the work all right. I have not used any for five or six years. If the ground is soft in one row and hard in the other that will not work onto the plants. They place them on wheels now, I think—it would overcome this difficulty. There are no disk cultivators used here, but plenty of disk harrows. I think there are more American cultivators used here than all the others together.

SUMMARY.

Our friends have so completely discussed this topic that there is little for the Editor to add. We agree with the majority of our correspondents that a riding 2-horse cultivator with hoes is better than a tongueless one or one with disks. It is far more under the control of the operator, and can be made to do better and more level work. Disk harrows and disk plows are all right, and in most lands we prefer the disk drill, but for a cultivator we do not like the disks, as the proper level and shallow cultivation cannot be done with them. Have never tried a 2-horse cultivator without a tongue and do not care to try one, for it cannot do the work as well as a riding cultivator with tongue.

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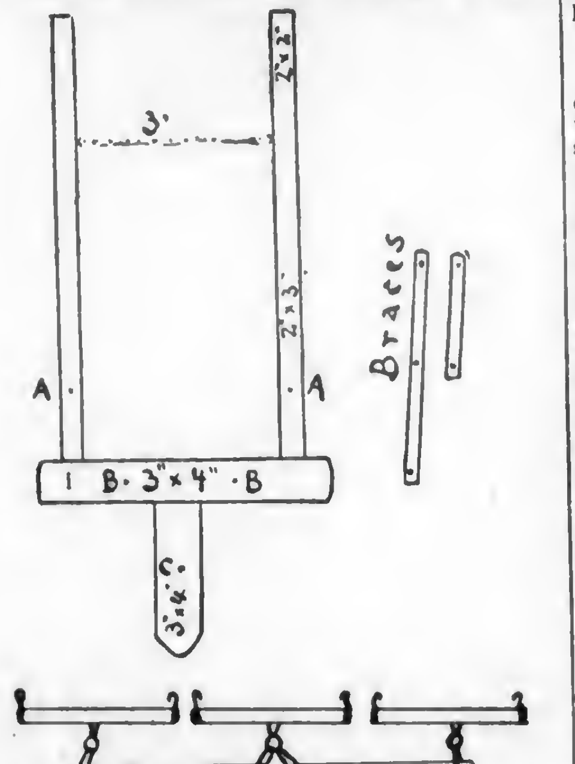
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T Greiner, La Salle, N. Y.

Hitching Three Horses to a Wagon.—I have rigged up a device to hitch three horses to a stiff-tongued wagon, and find it a great convenience in heavy hauling, and the cost is very small. Use oak or hickory; mortise shafts into cross-piece and also mortise tongue in cross-piece. Braces can be cut from an old wagon tire or something of the kind. One brace under bottom from A to C, and one on top from A to B, makes it safe and strong. Take out your wagon tongue and place shafts in place. Let cross-piece fit against ends of hounds. The hitching rig is simple and easily made, and is the best I have ever tried for a 3-horse evener. Common singletrees, open rings and clevises can be used. Place doubletree back on shafts until singletrees come even with front edge of cross-piece. Use two 3-foot breast yokes. Now there is a rig that three horses can pull as much with as four can pull with two at end of tongue.
J. ROY LEE.
Nichols, Ky.



Handy Gates in Calf Barn.—In rearing calves, it is better to keep them, for the first few weeks at least, in small pens, one or two in each pen. Swinging gates for these small pens are inconvenient, and we find the gates we have on the Scottdale Dairy and Stock Farm to be very convenient. The pens are four feet wide and front to an alley. The gates are about 2½x2½, and slide up out of the way, about 3 feet from the ground. The inside stops that hold the gate in position are cut off and one put on outside of this to extend clear up, so when the gate is raised to height of the stop that is cut off a slight push on the bottom makes it rest on the inside stop and a slight pull will release it when desired.
M. E. BEMIS.
Decatur, Ga.

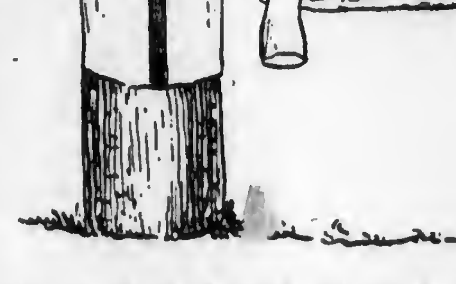
Uses for Old Stockings. — When the stockings of the "grown ups" can no longer be "footed down" for the younger ones, cut off the tops of the legs about half way down and by sewing a piece 5 inches square in the seat you can form nice panties for the little tots. They are comfortable and easily washed. Old socks and stockings stitched several thicknesses together make excellent "holders" to use around the stove and save the tea towels. Use old socks and stockings for cleaning rags and see how satisfactory they are.
MRS. W. E. JOHNSON.
Box 54, Empire City, Kan.

Short Cut in Dressing Poultry.—They say "necessity is the mother of invention." I had a chicken to draw today and could not find a sharp knife anywhere, so tried the shears, and they did the work so much quicker and easier than any knife could. I shall use them hereafter.

To Keep Chickens Out of Flower Beds.—Drive little twigs or sharp sticks about three inches apart all over bed (or a little further apart if you put small flat stones between) and it will keep the little chickens from scratching. They will crawl under brush, and it is unsightly. Woven wire is best of all, but all do not have it.
East Scott, N. Y. MRS. J. C. WHEELER.

House Cleaning Hints. — To make housekeeping as easy as possible, clean in February and March, and get rid of the heaviest annual work of papering, painting, lifting carpets (better use matting and rugs; saves sweeping and dusting so often), cleaning walls, ceilings, beds and presses. This kills the germs of many a pest that annoys during the warm season. Never be a slave to any routine, and do not try too much at a time. To sweep and dust one day and follow the next with damp rags and as little water as possible, is a good way. Leave some extras for autumn and winter when you cannot enjoy out-door life and need more exercise and ventilation than most people take. Study your own case and follow your own advice generally, if you love peace and comfort.
A. E. ARNOLD.
Butler, Ky.

Handy Grit Block. — When pounding grit, shell, crockery or dry bones, the block should be inclosed to prevent the pieces from getting lost. A piece of tin or sheet-iron



may be nailed around the block or stump which has been evened with a saw. Space must be left for the play of the hammer between the edges of the tin. A rim 15 inches high will hold most of the flying particles.
Perrineville, N. J. MRS. J. D. SPRING.

Cheap Ice Box.—Our ice box did not cost much, but has saved many a penny. I went to our clothier and got two boxes, one smaller than the other, and set one inside of the other with a 3-inch air-space between them, which I filled with dry sawdust; then had a tinner make a galvanized pan 6 inches deep, with a spout in the bottom, the whole costing 75 cents. I got a pair of hinges for 10 cents, and as the boxes were given to me the total in cash for the box was 85 cents. A half cake of ice, that is, a piece 11x22x10, will last, in there, four days. Two of our neighbors have made boxes like ours, only larger, and are very much pleased with the result. If you will take a piece of common newspaper and put over the ice it will last twice as long and you will get the same benefit from it.

Fixing an Old Binder.—Two years ago we bought of a neighbor, for a small sum, a binder which had been thrown away, as it would not tie all of the bundles. After running the binder three rounds I saw that something had to be done, and upon examining the knotter I found that it was worn so smooth that the twine slipped out before the knot was made. I got a three-cornered file and cut two notches about a quarter of an inch apart on the under side of the bill of the knotter, and have not had any trouble with its not tying bundles since, and last year, which was very wet, it did better work, and easier, than many of the new machines around here, and it did not cost much to fix it.
W. S. LUTZOW.
R 2, Morris, Ill.

LIGHT AND DARK,

Day and night, sunshine and shadow are not more different from each other than a healthful from a sickly woman. The healthful woman carries light and sunshine with her wherever she goes. The woman who suffers from ill-health casts a shadow on her own happiness and the happiness of others. She cannot help it. Those who suffer cannot smile and sing.

Ill-health in woman is generally traceable to disease of the delicate womanly organism. Many women have been restored to happiness by the use of Dr. Pierce's Favorite Prescription. If there is an invalid woman, suffering from female weakness, prolapsus, or falling of womb, or from leucorrhea who has used Dr. Pierce's Favorite Prescription without complete success Dr. Pierce would like to hear from such person—and it will be to her advantage to write as he offers, in perfect good faith, a reward of $500 for any case of the above maladies which he cannot cure.

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ABORTION IN COWS.

ABORTION consists in expulsion of the offspring before it can live independent of the dam. Abortion, when not due to specific causes, results from blows, injuries, poisonous blood disorders, exposure to cold, sudden excitement, anger, odors from slaughter houses, or from other animals similarly affected, purgatives and improper nutrition. Smut, ergot and decomposed materials of any kind, when taken as food often cause abortion.

Anæmia, another word for poverty of the blood, is probably the most common cause. Coarse, innutritious food reduces the vitality of the dam, the circulation is sluggish, the blood supplied to the calf, colt, lamb or pig is deficient in quantity and poor in quality.

These conditions above are often sufficient to cause a cow to lose her calf or a mare to lose her foal and if aided by excitement, a physic, a fall, or a chill, abortion is almost sure to follow. In animals carrying young good nutritious food must be supplied to nourish dam and foetus. Tonics are required, and quiet, clean quarters must be provided, and grain or hay affected with smut or containing ergot must be avoided.

Anæmia, being one of the most common causes for abortion in animals, is not easily noticeable. Animals showing extreme debility of the muscular system, becoming easily exhausted upon slight exertion are generally anæmic, and no better tonic can be applied than Dr. Hess Stock Food. It contains the tonics and salts of iron essential for the improvement of impoverished blood.

This stock food is formulated by Dr. Hess (M.D. D.V.S.), and is used by eminent veterinarians and endorsed by leading colleges. If they know of nothing better it must be good. Dr. Hess Stock Food, the scientific compound, is sold on a written guarantee, 100 lbs. $5.00 (except in Canada and on Pacific Slope), smaller quantities at a slight advance. It is fed in a small dose.

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THROUGH CO-OPERATION AND PROFIT-SHARING. By co-operation that co-operates; by profit-sharing that does share profits. We are giving our customers an interest in our business, letting the people own the store which they patronize and by this system of **profit-sharing** are gaining the hearty co-operation of every customer, increasing our business tremendously, reducing all expenses to the lowest level ever known and are thereby enabled to sell all goods at **positively the lowest prices ever known**, far lower than our past low prices which have saved so much money to our customers; far lower than the so-called "low prices" of any other department store, catalogue house or mail-order house. The millions of people throughout the country who have learned to patronize the mail-order houses because of the great saving of money they make possible, are turning their trade into our establishment because they realize the wonderful features of our plan (the most liberal plan ever heard of); the enormous saving of money on their goods; the profits they make on the goods they help sell for us and above all, the splendid returns of interest on their money induces them to take hold of this new idea in trading compared with which all other methods of trade are out of date and wasteful.

AT FIRST WE MADE THIS OFFER CONFIDENTIALLY TO A FEW OF OUR OLDEST CUSTOMERS, asked their opinion about it, and the enthusiasm with which they took hold of the idea convinced us that we had at last solved one of the greatest problems of trading; that we had at last succeeded in cutting out the last remains of the expensive, oppressive and wasteful middleman's system, and that we were justified in making our generous offer to the people at large and let them share in the great profits of the mail-order business—profits which are so large, not because of the profit charges on the goods, but because of the tremendous volume of sales.

WE GUARANTEE TO PAY YOU AT LEAST 7 PER CENT. INTEREST on your money and as our institution has made as high as 40 per cent. on the capital invested, there is no reason why—with the much larger business secured through the co-operative plan we should not be able to earn for our shareholders

ADDITIONAL DIVIDENDS AMOUNTING IN ALL TO 40 PER CENT. PER YEAR How this is done is fully explained in our "Book of Information," which we send to all shareholders *free of charge*. This book fully explains all the details of our business; the wonderful earnings of the co-operative societies of the world; and if you have any hesitancy about sending your money, and are willing to take chances of being too late, write for the book today. **A return of more than thirty times the investment in six years.** The tremendous earning power of the mail-order business is history. One of the pioneers in the business, as long as twenty-five years ago, started with a small office and having little or no money, offered a half-interest in his plant for $2,000, which money he desired for the expansion of the business. He was refused. Today this same $2,000 half-interest is worth $3,000,000 and not for sale at any price. And all this vast capital has been piled up by profits of the business. For another example: Eight years ago a Chicago capitalist entered a newly started mail-order business. He contributed to the capital of the firm less than $40,000. During the six years of his active connection with the business he withdrew many times his original investment in dividends, and finally he sold his interest for considerable over a million dollars. Six years in the mail-order business netted him **more than thirty times** his original investment. All this was done under close individual partnership, with limited capital and without the tremendous co-operation and selling force of an army of thousands of co-operative stockholders. The business of two of the largest mail-order houses combined amounts to $35,000,000 annually and yields a profit of $1,400,000 on a total capitalization of less than $4,000,000, **or 35 per cent. on the investment.** With such achievements by private individuals, a strongly co-operative organization with a capital greater than that of all others combined. **With the most skilled force of managers and employes recruited from its own shareholders** will without question, achieve still greater results both in point of sales and net profits produced.

OUR IRON CLAD GUARANTEE. Every dollar received in payment of the membership and profit-sharing certificate of stock goes right into the business; not one cent is paid to promoters or fiscal agents, but the entire amount subscribed, without deduction of any kind, is used for the development of the business; for the buying and manufacturing of merchandise of every description and other business purposes. The whole property of the company, its entire plant, stocks of merchandise, cash in banks and on hand; all its assets property, property rights, trade-marks, trade-rights and good will are the security for both the principal and the interest on your money. Not one cent of the dividend can be paid to anyone until the holders of our preferred shares have first been paid their guaranteed 7 per cent. each and every year.

DO NOT CONFOUND OUR LIBERAL OFFER of making you a partner in our business with any of the many schemes in which you are asked to join a mining company or an oil-well concern. They are all speculations and ninety-nine out of every hundred of such schemes made alluring offers of large returns which they cannot fulfill, because if the gold-mine promise does not show the gold which you are prospecting for; or the oil-well which you have dug refuses to spout or petered out—your money is lost. There is no such chance, no such risk in putting your money into legitimate, high-grade business which is **a going and money-making concern,** with a successful record of 18 years standing and which

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Located in Monroe Co., East Tennessee, 5 miles from Madisonville, the county seat, 40 miles southwest of Knoxville. Weather hot and dry, though we had some very hard rains about ten days ago. Corn looking well in places; wheat threshing over; about 40 per cent. of a crop; there is not likely to be a large acreage sown this fall, though it will possibly be put in better, some corn being cut. Prices: Corn, 70c.; wheat, 85c.; oats, 50c. per bu.; horses, $50 to $150; mules a little better; weanling mule colts, $35 to $60; cows, $20 to $40 each; eggs, 12½c. per doz.; hens, 8c. per lb. Land (wornout, so called, but easily improved), $5 to $10 per acre; good improved, $20 to $100.

J. D. CLARK.

Kincaid, Tenn., Sept. 7, 1903.

Located 13 miles north of Lancaster, Pa., the seat of Lancaster county. Very wet for a few weeks. Some farmers have threshed their wheat and oats, both poor. Prices: Wheat, 80c.; oats, 40c.; corn, 54c. per bu.; eggs, 18c. per doz.; butter, 18 to 20c. per lb.; bran, $20; hay, new timothy, $15 to $20 per ton. Prospects fair for a good corn crop; spring chickens, 12 to 14c. per lb. The P. F. ought to be in every farmer's home.

HENRY SNAVELY.

R. 5, Lititz, Pa., Sept. 9, 1903.

Marion county, W. Va. Threshing about completed; wheat nor oats made a good yield; crop light. We have had a continuous drought for two weeks; pastures and all vegetation drying up; corn not earing good; a great many stalks have no sign of shoot on them. We had a good rain Aug. 28, which will do lots of good. Plowing for wheat has begun, and from the outlook a good acreage will be put out. Prices of all grain are high. Potatoes, 70c. per bu.; chickens, 15c.; butter, 20c. per lb.; eggs, 20c. per doz.

E. R. I. FREELAND.

Barrackville, W. Va., Sept. 8, 1903.

Onondaga Co., 20 miles from Syracuse, the county seat. Haying and harvest delayed on account of rains; crops good if weather permits saving them. Fruit abundant; blackberries and plums so plentiful as to scarcely pay for marketing. This is a fine dairy country, and farmers appreciate their new creamery at Spafford, N. Y., which is doing fine work. Butter, 20c. per lb.; eggs, 20c. per doz.; potatoes, 50c. per bu.; pork, $7 per cwt.; oats, 40c.; wheat, 80c. per bu.

E. E. LAWRENCE.

Spafford, N. Y., Sept. 9, 1903.

Weather very cool and wet. Oats harvest somewhat backward on account of much rain. Grain crops good; corn is doing well; clover and timothy heavy. Plums sell at $1.50 per bu.; blackberries, 8c. per qt.; potatoes, 60c.; apples, $1 per bu.; eggs, 22c. per doz. We have telephone lines extending all over the country and talk of having free delivery soon. Success to the P. F.

SAM'L VALENTINE.

Vose, Pa., Sept. 9, 1903.

Located 6 miles from the thriving city of Staunton, Va., in Augusta Co. Have R. F. D. Most of the farmers are done threshing, with a satisfactory yield of wheat. Cow peas have a good stand. Corn is very good considering the dry weather. The potato crop is extra good. Prices: Wheat, 80c.; corn, 58 to 60c.; oats, 35c.; barley, 50c.; potatoes, 50c. per bu.; eggs, 18c. per doz.; butter, 15c. per lb. Success to the P. F.

C. B. PELTER.

Laurel Hill, Va., Sept. 8, 1903.

In the Ohio Valley, 85 miles below Louisville, Ky. The season about winding up. Wheat about 50 per cent. of full crop and quality poor; a few good crops on hill land where fertilized; rye and oats one-half crop; good crop of seedling peaches; apples very scarce and poor in quality; corn crop about made; a good crop, running close to last year. Stock hogs for feeding, scarce, 5½ to 6c. per lb.; pigs plentiful; stock cattle dull at 3 to 3½c. per lb.; horses a little dull on approach of winter, $75 to $100; good weaning mules, $40 to $50 each; corn, oats and produce generally Louisville prices with freight off. Very seasonable for the preparation of wheat ground.

H. C. BOONE.

Wolf Creek, Ky., Sept. 7, 1903.

Located in Macoupin Co., 2½ miles from railroad station, and plans are being made to build an electric railway through this part of the county. We have free mail and telephones are spreading a great deal. The corn crop is late and the weather is cool; the frequent rains make the grass green and fine. Not much cattle feeding here; hay crop large; oats very poor; not much fruit. Horses and mules high; land changing hands at a good price; farm hands, $20 per month. Potato and garden crop light. Prices: Wheat, 70c.; corn, 44c.; oats, 25c.; rye, 40c. per bu.; hay, timothy, $7 to $8; clover, $5 per ton; hogs, fat, $5 to $5.25; cattle, $4.50 to $5 per cwt.; chickens, spring, 9½c.; fowls, 9c.; roosters, 3c. per lb.; eggs, 12 to 13c. per doz.; butter, 12c. per lb. No turkeys, on account of early rains. Business prosperous; farmers looking for more land.

GEO. W. DIGGER.

Hettick, Ill., Sept. 5, 1903.

Located in Sampson Co., 23 miles southeast of Clinton, the county seat; 2½ miles from the A. & Y. R. R. Weather unusually hot all through July and August; lots of rain the first three weeks of August, which gave the pea crop a bad backset; it looks now as though we are going to have some fair weather. We hope the peas will soon recover from the wet weather. General crops are corn, peas, cotton, sweet potatoes and sorghum; corn best in three years; cotton not so good; sorghum average; potatoes fine. Prices: Corn, 75c. per bu.; cotton, 12½c. per lb.; eggs, 12c. per doz.; cows, $20 to $40; horses, $45 to $200 each; land, from $1 to $200 per acre. This is a fine country to farm or truck in; a veritable Garden of Eden; the land responds handsomely to good tillage. We think the P. F. improves each week. We like to read Mr. Terry's letters; they are so instructive.

N. D. DEVANE.

Tomahawk, N. C., Sept. 8, 1903.

Located in York Co. Season rather cold for crops; coldest known for a number of years; prospects of a heavy frost at this writing. Corn rather backward; potatoes blighting badly and reported rotting considerably; hay a good crop, rather above average. Prices: Butter, 25 to 30c. per lb.; eggs, 25c. per doz.; potatoes, 75c.; corn, 60c.; oats, 55c.; wheat, 80 to 90c.; apples, 40 to 60c. per bu.; hay, $8 to $14 per ton. Farm help in fair demand.

JOSHUA L. CHICK.

Wells Branch, Me., Sept. 7, 1903.

Cotton is a failure here, on account of the Mexican boll weevil; will not average one-tenth bale to the acre; truck has done well and held up in price. Tomatoes, 35c. per peck; watermelons, 10c. and up each; butter, 12½c.; mutton, 6 to 7c.; beef, 5 to 6c. per lb.; eggs, 10c.; chickens, $3 per doz.; green peas, 60c. per bu. Young orchards made fine growth; bees did well and honey is 10c. per lb. Plenty of corn made; farmers are putting up plenty of feed and making a good deal of sorghum molasses. Land is worth, on an average, about $7 per acre, although uncleared land can be bought cheap. Wages, 50c. per day; school teachers, $50 per month. Had good rains all year. Cow peas fine.

WALPOLE NOCKOLDS.

Oakley, Texas, Sep. 3, 1903.

Hendricks, in Central Tucker Co., Northern W. Va., 3 miles north of Parsons, the county seat, on line of W. Va. C. & R. R. R., at junction of Dry Fork R. R. Climate healthful; pleasant summers and not extremely cold winters. Soil, limestone clay, well adapted to most kinds of cereals and grasses. Summer has been rather cool and dry; crops are, therefore, below average, except grass and oats. Very little fall plowing done yet, owing to dry condition of soil. Prices: Wheat, 80c.; rye, 80c.; corn, 85c.; oats, 60c.; buckwheat, 60c.; potatoes, 55c. per bu.; butter, 20c.; beef, grass, 3½c.; hogs, 6c.; chickens, 10c.; turkeys, 9c. per lb.; eggs, 20c. per doz.; hay, prime timothy, $20 per ton; horses, $75 to $175 per head; farm help scarce at $1 to $1.25 per day and board. P. F. not generally read.

A. G. FANSLER.

Hendricks, W. Va., Sept. 7, 1903.

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THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Build Common and Swinging Stanchions.

E. F. Jordan, Cumberland, O., asks for an explanation of how stanchions are made, as he never saw one. He also wants to know how the gates between our box stalls are arranged so that the accumulating manure is not in the way of opening them. The common stanchion, which has been used for generations in the old dairy sections, is made about as follows: Stand up 2x4s, say, 3½ feet apart, along between cow floor and manger, the 4-inch sides facing them. Spike 2x4s on each side of these at the floor and also up about 5 feet high, running along parallel with the manger. Brace this frame so it will stand the strain of cows pushing and pulling. Now your rows of 2x4s, top and bottom, will be 2 inches apart. Between each two uprights will be a place for a cow. She is held by two pieces of lumber running up and down. One may be a 2x4 and spiked in place. This goes on one side of her neck, and should be so placed that the cow will be in the centre of the space between the uprights. The strip that goes on the other side of her neck should be about 1¾ inches by 4 and pivoted at the bottom so the top will drop over between the upper 2x4s and let the cow in or out. It should be a little thinner, you see, than the 2x4 uprights so it will play easily. Understand that both of these strips that hold the cow go between the rows of 2x4s, top and bottom. The pivot mentioned may be a half-inch bolt passing through the 2x4s, or even a wooden pin. These strips should be made of good, strong lumber. Oak is commonly used here. The top of pivoted strip can be fastened with a pin, or a latch; the latter is most in use here. This can be pivoted between the top 2x4s so as to drop down and hold the side-piece when it is shut against the cow's neck. The space between the upright pieces that hold the cow should be 7 inches for ordinary animals. This gives you an idea of the common stanchion. Some consider this rigid fastening as cruel. It is largely a matter of habit. Cows that are brought up from calfhood to be confined in this way during the winter seem to be entirely contented and able to do their best. Cows that have been used to being tied up, or not confined at all, will usually go down hill for a time, at least, when put in rigid stanchions. Years ago I often kept as many as 40 cows in these rigid stanchions. They had been brought up to it and seemed perfectly contented. But when we built our new barn and got ready to keep cows again we put in swinging, or turning, stanchions, because they give the cows more freedom, and they seem more comfortable, and at the same time they keep them just about as clean. The cows can turn and lick themselves clear to their tails, and they can swing their heads around on their sides when lying down. It is some more work to make a turning stanchion. Many have asked for a description of them, and how to make them. We have a 4x4 at the bottom, right on the cement floor, which makes the side of the manger next to the cows. Then a 4x4 runs along above it, about 5 feet high, with 4x4 posts up and down every 3½ feet. These are toe-nailed in top and bottom, and the whole frame, running the length of the stable, 80 feet, is well braced at the top and doweled into the cement floor with ½-inch iron pins, which pass through the 4x4. Now a cow stands between each two of the upright 4x4s. For holding her we have a frame that turns on a ½-inch iron bolt, top and bottom. These bolts pass through the 4x4s, top and bottom, with nuts on top. No nuts are needed below; just drive the bolts down. The frame is made of two pieces of 1¾x4, each 18 inches long, for top and bottom. Through these the bolts run on which the frame turns. Now into these top and bottom pieces one side piece, 1¾x4, is mortised, top and bottom, and held in place by two bolts through each end piece. This makes a solid frame. The pivoted side piece goes into a slot in top and bottom piece and is the same size as the other one. It moves on a half-inch iron bolt at the bottom. Most people make the frame of lighter material, and then it often breaks; ours never do. If real good, strong lumber was used, 3 inches wide for side pieces might be all right and would give the cow a slightly better chance to turn her head around. Now, these frames should be made 3 inches shorter than distance between 4x4 top and bottom rails. Under the frame put a block one inch thick, above it, one 2 inches thick; blocks, say, 6 inches long and both nailed to 4x4s. This helps the frame to turn readily, for one thing. The bolts on which the stanchion frame turns, top and bottom, of course, go through these blocks. Now how is the pivoted side piece fastened when the cow is in? The top block is 1¾ inches wide. The top of pivoted side piece comes up through slot in top of frame, just even at side nearest cow, 1¼ inches above at the other side, making a slanting top. A rectangular loop of ¼-inch iron rod, 11 inches long and 2 inches wide inside, passes around the top block, is held at one end by two fence staples, under which it turns, and the other end slides up on the slanting end of movable side piece, dropping down over it when it is entirely closed, and holding it shut securely. We have boards up and down to keep the cows from putting their heads into the wrong places. Bolts through top and bottom pieces, close to slots that pivoted side piece goes into, will keep it from splitting. Surely from this description you can study out how to build turning stanchions. The gates, Brother Jordan, are solid doors, only short, and hung so the bottom is up about a foot high. They must be heavy or horses will kick them to pieces.

Rye a Valuable Crop, but Makes Poor Hay.—J. S. Henry, Chromo, Col., wants to know about the value of rye made into hay, the best time to cut it, etc. Rye is a fine cover crop to grow on land that would otherwise be bare during the winter and where the soil is not frozen all the time. Then it is good to plow under the next spring, when it gets some 18 inches to two feet high, to add vegetable material to the soil, provided the after tillage is properly done. This means that the ground is harrowed and rolled, or otherwise worked down compactly, as fast as it is plowed, without a day's delay, if it is dry weather. Then only good results should come. If the ground is left, loosened by the rye, to dry out for some days, during hot, dry weather, and timely rains fail to come later on, crops may suffer where rye was turned in and those who do not stop to think may condemn the practice. A rye field is also an excellent place to pasture stock, on some soils and when the weather is open. Rye makes a fine early spring pasture for young stock and sheep. Rye can be cut for a soiling crop; that is, to feed green in the stable, and for a few days it goes pretty well. But it soon gets tough and is not relished by cows. Yet when it comes to rye for a hay crop, I cannot say a word in its favor. The poorest hay I ever had in the barn was made from rye cut when about in bloom. Stock simply would not eat it unless forced by starvation. It was musty, more or less, as rye is in bloom here, usually, before there is any weather fit for making hay. Perhaps this was part of the trouble with it. But when I fed it green to the cows they stopped eating it with any relish some time before it headed and bloomed, showing that it was tough and unpalatable then. Would that I had observed this at the time and been governed accordingly. I had a large yield of rye hay per acre, but that was all there was good about it. Had it been made into hay at the time it was relished green, say when about 2 feet high, the quality might have been fair, but there would not have been much of it, or weather to cure it. The writer has met with farmers by the thousand, in most every part of the country, for 21 years past, and heard almost every possible subject brought up, but he has failed to find anyone who was enthusiastic over rye hay after actual trial. He hopes he has saved many from the disappointment and loss that he met with. But do not be kept from sowing rye on stubble land wherever the weather is open during parts of the winter. The cost of seed is small and the saving considerable. It prevents plant food leaching down, as it gathers it up and stores it in its own growth. Then you plow in the rye, it decays and the crop can get it. It covers the surface and prevents the blowing away of fine particles, largely. It is quite a check on washing.

Health Hints.—Let the Home Life be Harmonious.—The following is the substance of a letter from a good member of the P. F. family. He does not tell me to withhold his name, but perhaps it is best to, then I shall feel more free to give the full particulars: "Wife weighs 125 pounds; I, 250. We have beds with springs and beds without springs. I think a hard bed better to sleep on than a soft and springy one. I prefer just a hard mattress or straw bed, with no springs under it. And I do not want the straw stirred up often, but left packed down. I know I sleep best on such a bed. But my wife wants a mattress, and feather bed on top of it and springs beneath the year around. Now, is this a proper bed to sleep in? You will confer a favor by deciding for us, as we never agree on this point. We have the windows all out in our four sleeping rooms and screens in, so we get pure air, and I want to have the conditions as favorable in the matter of beds. Then, again, ought not a wife to tell her husband how she spends every cent of her money? My wife says that it is none of my business as long as she pays the money for what she enjoys. I do not believe in women taking magazines. And do you think a wife ought to go to town, or to spend the day with a friend, unless accompanied by her husband? I never take my wife to any place evenings, as many do, and I think she ought to be content to stay at home and do for me. There is a vast difference in our tastes. She likes to go out and I do not. Kindly tell us what to do." I will gladly tell you, only hoping that you and your wife may think I am right, and put it into practice. Have your bed hard, just as you like it. Let your wife have one that is soft, just as she likes it. You are right about sleeping on a mattress yourself, and one can easily see how uncomfortable you would be sleeping on a feather bed in summer, weighing as much as you do. But now, a thin, cold-blooded woman may enjoy sleeping on a feather bed. I do not consider it a perfectly healthful way of doing. A good cotton mattress and springs would be better; but life is too short for you to be contending over any such minor matters. Don't do it any more. Let the good wife put the feather bed out in the sun a day now and then, turning it at noon, and no serious harm will be likely to come of her enjoying her bed as she likes it. Let neither of you find any fault with the bed of the other one any more, please; but rather be glad to have your dear one suited. By the way, we are more and more pleased with cotton mattresses. We have them on all our beds now. We can buy a choice one in Cleveland, as good as is made, for $12. Just as good a one, only made of cotton not quite as white, costs only $10. When you pay more than above figures you will not get value received. I know they are being advertised for more; we have one of them, too. It is customary to call them "elastic felt" now. This is simply good cotton made in large sheets. They are very durable.

Now to come back, my dear friend, I believe you are a good, honest, true man. But there are some matters that perhaps you have not thought just right about. We are all troubled with being wrong at times. Perhaps it may be all right for a wife to tell her husband how she spends every cent of the money she handles, if the husband accounts to her for every cent he spends, as faithfully. There can be no harm in this, if the parties prefer to do this way. But really, I like it better to look on marriage, from a business standpoint, as a partnership. Then let there be entire confidence between husband and wife, each one spending little sums for personal matters without accounting for the money to the other, except in a lump, so accounts may be kept straight; but consulting together about any large outlays. I never ask my wife to tell what she spends money for; do not want her to. I wish her to feel free to enjoy in her own way a little of the money she has faithfully helped to earn. But it would not be pleasant to have her tell me it was none of my business how she spent it. That is not a pretty way of expressing the matter. There is no danger, however, because I recognize her individuality enough to want her to do as she pleases, whether it be to get a magazine that suits her fancy, or what not. Try the same plan, my friend. It is just and right. Now see how much alike we are. I, too, like home pretty well, particularly evenings. Naturally, my wife likes to go more, and I always encourage her to. I want her to get enjoyment in her way. Surely she goes to town, or to spend a day with a friend, or a week, if they live some distance off, alone, or with others, often. She has a horse and little phaeton of her own, and the horse is always ready, never used for farm work. Bless you, I want her to have a good time, while I take comfort in my way. My dear friends, we must not be overselfish. Go out with your wife sometimes, even though the home seems more pleasant to you, who have been out all day. She has not, and will enjoy, yes, needs the change. And just as kindly she should sometimes yield to your wishes, when she can see how sweet home and her society are to you. Let us each be thoughtful of what is pleasant for our loving partners as well as for ourselves. We will all be more happy. Do you ask why this was put under the head of "Health Hints?" Because where there is lack of harmony, and friction in the home, where selfishness is more prominent than love, it will tell on the health of wife or husband in time, as well as on the future life of the children. Harmony and happiness in the home life help about bringing perfect health.

T. B. Terry.

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Straight Rail Fences and Double Gates.

F. H. SHIPLEY.

I have tried most kinds of fencing, for it is one of the expensive things on my farm, coming next after my fertilizer bill. The annual expense of fencing on my 160-acre farm with its two miles of line fence, five cross fences and a half mile of lane, will easily amount to $100. My father did not believe in fencing, said it did not pay, that it was better to soil. But having inherited the farm, I am persuaded that fences add greatly to the appearance. I have used both barbed and plain wire, always with cases of injury to stock. As bad an injury as I ever saw came from a horse getting its foot over a plain wire and pulling back, nearly severing the foot at fetlock. I have plenty of chestnut fence timber and it would cost me for posts and rails, 25 cents per panel from the stump, put up five rails high—2 cents per hole, 1 cent for sharpening rails, and the rest for setting posts and placing rails therein. The old worm fence should be done away with, for I believe it to be the nest of nearly all our weed pests. Besides, it is unsightly and occupies more ground than any other fence. A board fence looks well, and does well. It is first in appearance, but we cannot get all good plank. Then we must cover the joints, which causes the plank to rot. Without this the fence will last much longer, as it will soon dry out, but looks are against finishing a fence in this way. I have built fence by driving two stakes, wiring them and laying rails between. This has much in common with the worm fence. I have also made some fence by setting posts, sharpening rails and spiking them to posts, one end of rail on one side of post, other end of rail on opposite side of next post, thus zig-zagging rails on posts. I have never seen a hedge fence of any considerable length without gaps. The necessary trimming would hardly be done on a farm, and is a task to perform in any case. The post and rail fence is the best one for me, but I am seriously of the opinion that it is cheaper to soil stock. If I had no fence timber, I certainly should use no kind of wire fence. In that case I would soil altogether, having a few lots about the barn to feed in. The manure would thus be kept in bulk, and with $100 per year now expended for fencing, I could hire a man to attend to the soiling and be much better off in the end. I could also feed more stock from a smaller acreage, waste considered. Those of our milkmen who soil make the most money. I have observed lands near our city which used to cut three tons of hay per acre that are hardly furnishing good pasture now, due, I believe, to pasturing. My only reason for fencing is to be found in the improved appearance of the farm and home, and I have almost concluded it is to please the eye, rather than for the real benefit to be derived therefrom. Without fences our country would not be so homelike. There would be nothing to attract the eye except one vast expanse of forest, hill and dale—and homes. The fence breaks the monotony of the view, isolates the farm, in a certain sense, and to some extent declares the farmer. The life of any fence, except special or growing ones, is not much over ten years; that is, until repairs must begin. A few posts and rails or planks should be kept on hand for repairs. With fencing, as with other things, a stitch in time saves nine. For line fences I prefer to make my post fences four rails high, and for inside fences, three rails, leaving a space of about 18 inches between lower rail and ground. This makes the fence row easily kept clean, and when the posts rot off I can sink them lower and thus prolong the life of my fence. In some mountain districts, also in the Valley of Virginia, they have a decided advantage in the use of locust posts. They never rot, it seems to me. I have seen stakes marking the lines of farms which have been in place an incredible number of years, while my locust is hardly as good as chestnut. The cost of their posts is estimated at 15 cents each, and will last, say, fifty or more years. If a man had sufficient capital this would, in the end, be the material for posts. Railroad transportation would be costly; but still a farmer could not well afford a present outlay of, say, 25 cents for a post. The railroad which passes through my farm had some fencing to do near me, and bought posts at a mill for 12 cents each, all ready to be put up. I thus learned that getting such material out was made a business at some places, and was done as cheaply as I could do it with my own material, though mine would probably be somewhat better.

I am using double gates, the two together being 15 feet wide. My binder can pass through without taking it down, while for most purposes it is only necessary to use one side. I put a post in level with ground, from which a brace hooks to gate on one side. I have a latch on other gate, also an iron which falls over opposite, making them double fastened and secure.

Baltimore Co., Md.

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Effects of Intense Cultivation.

A NUTMEG GRANGER.

The local Grange of Higganum, Conn., through their master, Mr. Fred. Kelsey, with Dr. Smith as chairman, recently invited the State Pomological Society and the Dairymen's Association to a field meeting, to show them in part what can be done by intense cultivation. The invitation was responded to by several hundred representative men and women from different parts of the State and county. Dr. Smith and his committee met them at the Higganum station, took them to their Grange headquarters, and then to the orchard and grass field of George M. Clark. They found an orchard of 5½ acres containing 1,425 trees, on a poor, gravelly knoll that had been cultivated for five years with Clark's Double Action Cutaway Harrow, one hundred times each way, at a cost of $350; $70 a year, or $13 per acre. Frost had killed the second and fifth crops; in the third and fourth years the trees had produced 1,500 baskets of very large plums, at an average value of 50 cents per basket—$750. These trees have made an average growth of 20 feet since setting, and have been cut back 12 feet. Average growth this year and last, 300 feet to a tree. Trees set at the same time, not cultivated, same soil, grew less than 5 feet, and bore no fruit. They also found positive evidence of grass culture, with intense cultivation, of six tons of well-dried hay, first crop; and that a second crop of two or three tons per acre was assured this year. They also found what few, if any, had supposed possible in the New England climate—a first crop of timothy, matured, 5 feet high; a second crop matured of 42 inches; a total of 90 inches—7½ feet growth this year, and a five-days' growth on a third crop. They also saw a field where over seven tons of hay to the acre were cut on July 25th, with more than two tons to the acre still standing. Clark's grass farm is a rough, rocky, almost abandoned farm, reclaimed, producing wonderful crops, mainly by reason of intense cultivation; and the Double-Action Cutaway Harrow has done the work.

Farmers are familiar with the reports of a corner of this tract, only seven-eighths of an acre in area, that has been mowed fourteen years and produced 111 tons of hay! This land was like the rest in the beginning—covered with stone, bushes and saplings—and was worked more than forty times during the two years before seeding. That thorough tillage succeeded in killing out all foreign growth was evidenced by a glance over the rank second growth. Not a weed of any description was in sight. As a matter of fact, the stand of grass was so dense that a weed must have been choked before it reached sunlight. Of course this land has not been left to thrive on the original intensive cultivation alone. Five to six hundred pounds of bone, potash and nitrate of soda in equal parts are applied when the grass is well started in spring, and about one hundred and fifty pounds for the second crop, applied after the crop has started. Counting everything chargeable to it, this hay is landed in the mow at a cost of less than $5 per ton, and the system nets at least $50 per acre. As a practical demonstration, a farm hand hitched a double team to a Cutaway harrow. Three or four men in the party piled on for weight, and the really light pair of horses pulled the load through a rod of stones and brush and return. The result was simply wonderful, although the tool used was not intended for that class of work. In the grass ground the tool pierced the turf quite well in one trip and return. In preparing this last class of land the plan is to cut it up by crossing and recrossing at angles a few times, then plow; after that go at it again with the cutaway. In the end it makes everything in the land available for plant food at once.

Connecticut.

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Cow Peas in Maryland.

[The following letter to the Editor was not intended for publication, but we feel sure that Colonel Earle will pardon the use of it, since its contents are of great general interest. We fear that in the burying of the great growth of peas and weeds our old friend (for though over 80 years of age, he is still an active farmer) is making a mistake, and that the result on the timothy will not be as good as he may anticipate, unless he uses lime liberally on the land. In my own experience the burying of so much green growth in warm weather has been disastrous to a fall-sown crop. We know that Colonel Earle, on what he calls the "poor intensified farm," makes, usually, 40 bushels of wheat per acre, but fear that if that buried mass of vines is sown to timothy with wheat, he may have the result we once had, a tremendous straw growth, wheat all lodged and grass smothered. No wheat and no grass. This was on a limestone clay, where green manuring could at times be practiced, while on the lighter soil of the Eastern Shore of Maryland the souring of the soil may prove disastrous to growth at all.—ED.]

Centreville, Md., Sept. 4, 1903.

Prof. W. F. Massey:

My Dear Sir.—I have read the balance of your address in the P. F., and get many good hints from it on cow peas. But, really, I must say that you can hardly grow such as we grow—they are perfectly enormous. I am at work today on a 2-acre lot so filled with weeds that I have abandoned it for hay, although picked over twice. Weeds at least six feet tall and covered to top with pea vines. It was disked over three times, reversing the way each time and then running as deep as possible with a large Oliver plow. Could not turn it, and am now running a two-tine disk plow, with a second man following with a fork to put the vines in the furrow, and with all it makes a bad show, and will require an immense amount of work to get it in order for seeding to timothy. I have in all about 20 acres of magnificent peas, clean of weeds, to cut for hay, except eight acres to be fed off by hogs in late fall. I will take your hint and take off the track marker, but still I have fears about mowing them. They grow about 4 feet tall and now flat, with vines all over the top of them, and are full of blooms and pods, and will be ready to mow in ten days. I agree with you in the use of the tedder. On my heavy grass I use the tedder right after the mower. I have never saved cow pea hay. Another hint is to avoid heating in the cock and losing the leaves, for this loss of leaves has been a drawback here. I hope to have room to put all under cover, but if not will try your plan of stacking and covering with straw. I have had the article in last week's P. F. copied in our paper, the Centreville Record, this week, in article on my poor intensified farm. My fallow in preparation for wheat has already been harrowed over three times, and disk will be kept going until seeding time. I am truly glad to know that you will be at our Institute in January.

Yours truly, SAM'L T. EARLE.

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Fencing in Central Maryland.

P. T. STABLER.

I was raised with the old-fashioned worm fence on the farm, and post-and-rail fence around the buildings. Both of these are of the past. I have used five different styles of wire fence. After having three or four horses and several cows injured, I have discarded barbed wire. Have tried smooth wire with stays, made of No. 12 wire, woven in on every strand, also a stay of doubled and twisted No. 14 wire. These stays are too light to hold the fence up between posts. When a horse reaches over the light stay bends down and does not come up any more; also wherever a man climbs over the stays go down to stay. I am now using a fence 5 feet high made of seven strands of No. 9 wire stretched with a ratchet attached to every wire at one end and two strong spiral springs to hold it taut. These springs will give back in cold and spread out in warm weather, keeping fence stretched the year round. The best stay is made of No. 7 wire thoroughly fastened to the strand wire. Five stays to the rod will hold a man's weight. If the end posts are not properly planted and braced, the whole fence is defective and a botch. This is the keynote of all good wire fences. I cut my end posts 10½ feet long, from 6 to 9 inches in diameter; dig a hole fully 5 feet deep; cut notch in post for a piece of 3x4 scantling nearly as long as hole is wide; nail fast 4 inches from bottom of post to prevent twisting or raising; ram hard. Set next post 8 feet from first one, notch in a brace 2½x4 inches from top of end post to second one at the ground; then put a piece of No. 9 wire around bottom of end and top of second post, put a stick in between wires and twist the two together until very tight. Staple the wires at posts so they will not slip. Next, plant posts one rod apart, 2 feet in ground and 5½ feet out; put on seven wires spaced to suit, say top space 11 inches, then 11, 10, 8, 7, 6, 7. Stretch top wire first, staple lightly, full 5 feet high; stand off to one side, look along and direct where to move staples to take out all irregularities. With a wrench on these ratchets you can stretch 60 to 100 rods of fence. Do not drive staples up tight; allow room for wire to stretch when run against. The setting and bracing of the end posts will determine whether you will have a good or a poor fence—don't forget that. If the steel and wire trust does not run wire up on us to over $1.75 to $2.00 per 100 pounds, a fence made of Nos. 7 and 9 galvanized wire will still be the cheapest good fence the farmer can put up, costing less than any rail or board fence, counting labor, hauling and all. Cost of material for 75 rods of fence (not including posts) is as follows:

Wire (7 strands No. 9 and 300 lbs. double stays No. 7)	$15.00
2 heavy springs @ 25c	.50
7 ratchets @ 8c	.56
Staples, say	1.00
75 lbs. stay locks @ 8c	6.00
Total	$23.06

This is about 32 cents per rod for fence, exclusive of posts and work. We do all the work with farm force.

Montgomery Co., Md.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Crimson Clover on Tobacco Land.—J. W. Leary, Coleraine, N. C.—"I wish to sow my tobacco land in either crimson clover or rye to plow under in May for corn or cotton. Which will be the better? Will cotton grow on a green crop of clover turned under? Would it be well to sow phosphate and potash according to your formula before turning under? Have sown clover in cotton and it is now up and growing and will follow the pea crop with a cover for spring hay. The P. F. is my text book and I cannot do without it." We would use the crimson clover, by all means, as the winter crop, and would apply to it this fall the dressing of acid phosphate and potash, and are sure it will do more good in this way to the corn or cotton crop next spring than if you defer it until the spring. It will give you a heavier growth of clover and will all go back to the soil for the cotton or corn, for you cannot lose these as you can ammonia. One of the greatest improvements we know of in a cotton crop on an old field was from plowing under crimson clover in the spring. If the growth is very heavy it may be best to cut it or pasture it down in the spring. But put the fertilizer on this fall.

Cover Crop in Oregon.—W. L. Ray, Myrtle Point, Ore.—"I have some sandy soil that overflows in winter and is apt to wash. It is now in corn and I want to sow something that will prevent the washing and give feed in the spring, as it is almost too cold for corn, and I am running a dairy." The best thing we can recommend for you is the hairy vetch. It would have been better to have sown it in your climate the last of July or early August, so as to have had a stronger growth in the winter. But it is a very hardy plant and can still be sown. Use about 25 pounds of seed per acre. You can get the seed, we presume, from seedsmen in Portland or San Francisco; H. H. Berger & Co., San Francisco, probably.

Grasses in California.—W. A. McFarland, Fall River Mills, Cal.—"We are raising stock and want to get our lands here into tame grasses for hay and pasture. We are in Northern California, 3,200 feet above the sea, and have snow and zero weather in winter, but no rain from the middle of June to middle of September. Have some land that is covered with water from December until July, when the water dries up and the grass makes a good growth, but hardly enough to pay. Is there any tame grass that could be grown on this land, which cannot be drained, as it is a mountain basin. We have other lands that get pretty wet in winter and produce good wheat. We are thinking of trying Russian brome grass. Is it a good, hardy grass with deep roots? Will be glad to have any advice you can give." We do not know of any grass that you can use that will do any better on the overflowed land than the native wild oats and other grasses of California. Under the conditions you name on the other lands we think that we would make a forage crop of wheat, sowing with it the hairy vetch, which is a winter growing plant and very hardy. These combined will give you the finest hay crop you can grow. None of the perennial grasses of the East would withstand your summer droughts. Probably you can get better advice by writing to your Experiment Station at Berkeley, Cal. They are in a better position to advise you than we are, as they have been studying the climatic conditions of your State and will be glad to help you.

Mildew on Melons and Cucumbers.—P. A. Poole, Victoria, N. J.—"Enclosed I send a leaf of cantaloupe and of young clover. We had a pickle patch that should have given 50,000 pickles, but we got 6,000. The vines were affected as this cantaloupe leaf is, and the cantaloupes are going the same way. Is the same thing on the young clover leaves that I send? What can we do another year to combat it? We have a fine stand of clover in millet, but it looks like this all over. Another patch a few rods distant is fine." The melon leaf sent is affected with the downy mildew. You can keep it down next season by beginning early and spraying every ten days with Bordeaux mixture. The young clover has probably been scalded by excessive rains and the crowding of the millet combined. We think it will come out all right.

Lime, Sulphur and Salt Mixture.—Ontario Boy, South Boston, Va.—"On page 152 you mention a lime, sulphur and salt mixture for spraying for San Jose scale, but do not tell how to make it. I have a young orchard which I do not know is affected with scale, but I think of applying this, as it will do no harm. I cannot refrain from seconding what you said to young man from Ohio. I am the eldest of a family of five, four of whom are now men. I staid home with father and mother until 25 years old, and now, after 14 years, have no reason to regret having done so. Other brothers did likewise, and our parents, now that they cannot work, are comfortably fixed in their old age, and we boys are still young and have as much in dollars and cents as we would have had if we left home at 21; and my advice to all young men who are blessed with as good parents as the Ohio boy must have, is not to be in a hurry to leave home, for in the years when the working days of father and mother are over there is a genuine pleasure in knowing that you did your best for them, even if there is no other compensation." The following is the recipe for the lime, sulphur and salt mixture: Unslaked lime, 30 lbs.; salt, 15 lbs.; sulphur, 20 lbs.; water, 60 gallons. Take 10 pounds of the lime, 20 pounds of sulphur and 20 gallons of water and boil until the sulphur is thoroughly dissolved. Then take the remainder of the lime and salt, slake and add water enough to make the 60 gallons. Strain this and spray the trees while it is warm. Apply this when the foliage is off the trees. We are glad to have your experience in regard to staying on the farm, and believe you are right. On the other hand, we have a letter from a reader in Maryland, who evidently had eaten something that disagreed with him, who says that the poor Virginia farm will not make more than enough to feed a horse and a cow, and that the negro laborer is utterly worthless, and thinks the Ohio boy had better stay in Ohio or go to Oklahoma. There are certainly large areas of poor, run-down land in Virginia, but there are also large areas as good as Ohio or elsewhere, and as a farm laborer, we who have been working negroes, slave and free, for nearly half a century, know well that for the South there is no better farm hand. There are worthless negroes, and too many of them, it is true, but there are negro farm hands as reliable as any, and we have them, men who, in our repeated absences, keep up their work as faithfully as when we are home. Our friend who thinks hard of the negro has had an unfortunate experience, and though living in a Southern State, is probably a Northern farmer who has not learned how to manage the negro. If the politicians would let him alone, there would be little trouble with the great majority of the negroes. We do not ask more faithful service than we get from the negroes that have been in our employ for years, and if the Maryland negroes, where our friend lives, are so utterly worthless, we would try to find some better ones, for they are not all bad by any means, no more than the Virginia lands are all poor.

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"For the land's sake" use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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Power on the Farm.—The subject of power on farms is becoming of more importance each year. The farmer who makes the greatest success in life is he who studies most carefully how best he can save his personal strength and time, in order that his brain may be more active, and thus enable him the better to cope with the complicated business situations now so frequent in the farmer's life. There really is no excuse for a man exhausting his physical strength, and thus rendering himself practically incapacitated for anything else, when he might just as well save his strength by introducing modern machinery to do the heavy work. Farm machinery of modern type is doing away with the great manual labor which used of necessity to be performed by hand. Perhaps the greatest of all achievements in the line of labor-saving machinery for the farm is the gasoline engine, which serves a multitude of purposes and is really so practical and cheap that it should receive the attention of every progressive farmer. During the past few months there has appeared in the columns of the P. F. the advertisement of the Fairbanks Gasoline Engine. The corporation of the Fairbanks Company emanates from the invention of scales. Lever scales were invented in 1830 by Erastus and Thaddeus Fairbanks, at St. Johnsbury, Vt. Scales are made for all purposes; and with the regular and special goods they now manufacture about 5,000 different modifications of scales. To facilitate the scale business, and have warehouses in all the different large cities for the easy distribution and construction of scales, it was necessary from an economical standpoint to take up some other lines of goods. This has been done, until now the Fairbanks Company is the largest supply house in the world, carrying immense stocks of scales, valves, gas engines, railway, mill and factory supplies of all kinds. The gas engine department was established some six years ago and has steadily grown until it is now one of the largest departments of the Fairbanks Company. They can furnish engines for all purposes. In the vertical type from a single horse power to ten horse power, and in the horizontal type from three horse power up. The vertical type is especially adapted for the farm, and can be used for pumping, threshing, cutting wood, etc. The engines are perfectly safe in every respect, cost very little to run, are easy to manage, and are very durable, having no delicate parts to get out of order. Farmers should be interested in this matter of "Power on the Farm," for it certainly means a great benefit to them if they can possibly avail themselves of it. Pamphlets and books of instructions are sent free if you mention the P. F.

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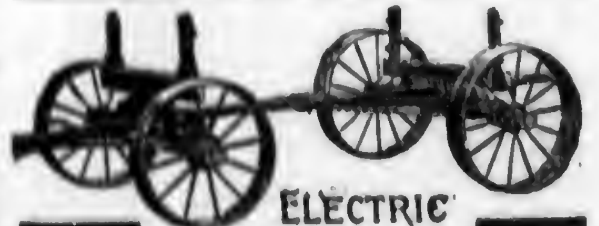

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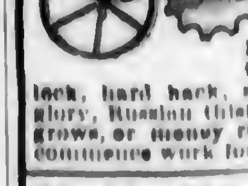

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THROUGH CO-OPERATION AND PROFIT-SHARING. By co-operation that co-operates; by profit-sharing that does share profits. We are giving our customers an interest in our business, letting the people own the store which they patronize and by this system of **profit-sharing** are gaining the hearty co-operation of every customer, increasing our business tremendously, reducing all expenses to the lowest level ever known and are thereby enabled to sell all goods at **positively the lowest prices ever known,** far lower than our past low prices which have saved so much money to our customers; far lower than the so-called "low prices" of any other department store, catalogue house or mail-order house. The millions of people throughout the country who have learned to patronize the mail-order houses because of the great saving of money they make possible, are turning their trade into our establishment because they realize the wonderful features of our plan (the most liberal plan ever heard of); the enormous saving of money on their goods; the profits they make on the goods they help sell for us and above all, the splendid returns of interest on their money induces them to take hold of this new idea in trading compared with which all other methods of trade are out of date and wasteful.

AT FIRST WE MADE THIS OFFER CONFIDENTIALLY TO A FEW OF OUR OLDEST CUSTOMERS, asked their opinion about it, and the enthusiasm with which they took hold of the idea convinced us that we had at last solved one of the greatest problems of trading; that we had at last succeeded in cutting out the last remains of the expensive, oppressive and wasteful middleman's system, and that we were justified in making our generous offer to the people at large and let them share in the great profits of the mail-order business—profits which are so large, not because of the profit charges on the goods, but because of the tremendous volume of sales.

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OUR IRON CLAD GUARANTEE. Every dollar received in payment of the membership and profit-sharing certificate of stock goes right into the business; not one cent is paid to promoters or fiscal agents, but the entire amount subscribed, without deduction of any kind, is used for the development of the business; for the buying and manufacturing of merchandise of every description and other business purposes. The whole property of the company, its entire plant, stocks of merchandise, cash in banks and on hand; all its assets property, property rights, trade-marks, trade-rights and good will are the security for both the principal and the interest on your money. Not one cent of the dividend can be paid to anyone until the holders of our preferred shares have first been paid their guaranteed 7 per cent. each and every year.

DO NOT CONFOUND OUR LIBERAL OFFER of making you a partner in our business with any of the many schemes in which you are asked to join a mining company or an oil-well concern. They are all speculations and ninety-nine out of every hundred of such schemes made alluring offers of large returns which they cannot fulfill, because if the gold-mine promise does not show the gold which you are prospecting for; or the oil-well which you have dug refuses to spout or petered out—your money is lost. There is no such chance, no such risk in putting your money into legitimate, high-grade business which is **a going and money-making concern,** with a successful record of 18 years standing and which

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YOU ARE INVITED TO BECOME A PARTNER IN OUR GREAT BUSINESS and share in its profits in the exact proportion of your contribution to the capital and the amount of goods you buy, and which are bought by all our other customers. **We have Divided the Capital into Shares** of $10.00 each, so that you, even if you have but the most modest means, can take advantage of this truly wonderful opportunity to—

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NEARLY THREE HUNDRED PER CENT. PROFIT **on his small investment,** which means that he bought his own goods at less than the regular market price and received on his money better interest than he could possibly secure in any other way. Before submitting our plan we have taken the advice of many prominent bankers, lawyers, manufacturers, business men and a number of our oldest customers, all of whom have pronounced it perfect. All prophesied that it would "take like wildfire," and the only difficulty they foresaw was that we would have to disappoint thousands of people who would be anxious to join us.

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Located in Monroe Co., East Tennessee, 5 miles from Madisonville, the county seat, 40 miles southwest of Knoxville. Weather hot and dry, though we had some very hard rains about ten days ago. Corn looking well in places; wheat threshing over; about 40 per cent. of a crop; there is not likely to be a large acreage sown this fall, though it will possibly be put in better; some corn being cut. Prices: Corn, 70c.; wheat, 85c.; oats, 50c. per bu.; horses, $50 to $150; mules a little better; weanling mule colts, $35 to $60; cows, $20 to $40 each; eggs, 12½c. per doz.; hens, 8c. per lb. Land (wornout, so called, but easily improved), $5 to $10 per acre; good improved, $20 to $100.
J. D. Clark.
Kincaid, Tenn., Sept. 7, 1903.

Located 8 miles north of Lancaster, Pa., the seat of Lancaster county. Very wet for a few weeks. Some farmers have threshed their wheat and oats, both poor. Prices: Wheat, 80c.; oats, 40c.; corn, 54c. per bu.; eggs, 18c. per doz.; butter, 18 to 20c. per lb.; bran, $20; hay, new timothy, $15 to $20 per ton. Prospects fair for a good corn crop; spring chickens, 12 to 14c. per lb. The P. F. ought to be in every farmer's home.
Henry Snavely.
R 5, Lititz, Pa., Sept. 9, 1903.

Marion county, W. Va. Threshing about completed; wheat nor oats made a good yield; crop light. We have had a continuous drought for two weeks; pastures and all vegetation drying up; corn not earing good; a great many stalks have no sign of shoot on them. We had a good rain Aug. 28, which will do lots of good. Plowing for wheat has begun, and from the outlook a good acreage will be put out. Prices of all grain are high. Potatoes, 70c. per bu.; chickens, 15c.; butter, 20c. per lb.; eggs, 20c. per doz.
E. R. I. Freeland.
Barrackville, W. Va., Sept. 8, 1903.

Onondaga Co., 20 miles from Syracuse, the county seat. Haying and harvest delayed on account of rains; crops good if weather permits saving them. Fruit abundant; blackberries and plums so plentiful as to scarcely pay for marketing. This is a fine dairy country, and farmers appreciate their new creamery at Spafford, N. Y., which is doing fine work. Butter, 20c. per lb.; eggs, 20c. per doz.; potatoes, 50c. per bu.; pork, $7 per cwt.; oats, 40c.; wheat, 80c. per bu.
E. E. Lawrence.
Spafford, N. Y., Sept. 9, 1903.

Weather very cool and wet. Oats harvest somewhat backward on account of much rain. Grain crops good; corn is doing well; clover and timothy heavy. Plums sell at $1.50 per bu.; blackberries, 8c. per qt.; potatoes, 60c.; apples, $1 per bu.; eggs, 22c. per doz. We have telephone lines extending all over the country and talk of having free delivery soon. Success to the P. F. **Sam'l Valentine.**
Vose, Pa., Sept. 9, 1903.

Located 6 miles from the thriving city of Staunton, Va., in Augusta Co. Have R. F. D. Most of the farmers are done threshing, with a satisfactory yield of wheat. Cow peas have a good stand. Corn is very good considering the dry weather. The potato crop is extra good. Prices: Wheat, 80c.; corn, 58 to 60c.; oats, 35c.; barley, 50c.; potatoes, 50c. per bu.; eggs, 18c. per doz.; butter, 15c. per lb. Success to the P. F. **C. B. Pelter.**
Laurel Hill, Va., Sept. 8, 1903.

In the Ohio Valley, 85 miles below Louisville, Ky. The season about winding up. Wheat about 50 per cent. of full crop and quality poor; a few good crops on hill land where fertilized; rye and oats one-half crop; good crop of seedling peaches; apples very scarce and poor in quality; corn crop about made; a good crop, running close to last year. Stock hogs for feeding, scarce, 5½ to 6c. per lb.; pigs plentiful; stock cattle dull at 3 to 3½c. per lb.; horses a little dull on approach of winter, $75 to $100; good weaning mules, $40 to $50 each; corn, oats and produce generally Louisville prices with freight off. Very seasonable for the preparation of wheat ground. **H. C. Boone.**
Wolf Creek, Ky., Sept. 7, 1903.

Located in Macoupin Co., 2½ miles from railroad station, and plans are being made to build an electric railway through this part of the county. We have free mail and telephones are spreading a great deal. The corn crop is late and the weather is cool; the frequent rains make the grass green and fine. Not much cattle feeding here; hay crop large; oats very poor; not much fruit. Horses and mules high; land changing hands at a good price; farm hands, $20 per month. Potato and garden crop light. Prices: Wheat, 70c.; corn, 41c.; oats, 25c.; rye, 40c. per bu.; hay, timothy, $7 to $8; clover, $5 per ton; hogs, fat, $5 to $5.25; cattle, $4.50 to $5 per cwt.; chickens, spring, 9½c.; fowls, 9c.; roosters, 3c. per lb.; eggs, 12 to 13c. per doz.; butter, 12c. per lb. No turkeys, on account of early rains. Business prosperous; farmers looking for more land.
Geo. W. Dugger.
Hettick, Ill., Sept. 5, 1903.

Located in Sampson Co., 23 miles southeast of Clinton, the county seat; 2½ miles from the A. & Y. R. R. Weather unusually hot all through July and August; lots of rain the first three weeks of August, which gave the pea crop a bad backset; it looks now as though we are going to have some fair weather. We hope the peas will soon recover from the wet weather. General crops are corn, peas, cotton, sweet potatoes and sorghum; corn best in three years; cotton not so good; sorghum average; potatoes fine. Prices: Corn, 75c. per bu.; cotton, 12½c. per lb.; eggs, 12c. per doz.; cows, $20 to $40; horses, $45 to $200 each; land, from $1 to $200 per acre. This is a fine country to farm or truck in; a veritable Garden of Eden; the land responds handsomely to good tillage. We think the P. F. improves each week. We like to read Mr. Terry's letters; they are so instructive. **N. D. DeVane.**
Tomahawk, N. C., Sept. 8, 1903.

Located in York Co. Season rather cold for crops; coldest known for a number of years; prospects of a heavy frost at this writing. Corn rather backward; potatoes blighting badly and reported rotting considerably; hay a good crop, rather above average. Prices: Butter, 25 to 30c. per lb.; eggs, 25c. per doz.; potatoes, 75c.; corn, 60c.; oats, 55c.; wheat, 80 to 90c.; apples, 40 to 60c. per bu.; hay, $8 to $14 per ton. Farm help in fair demand. **Joshua L. Chick.**
Wells Branch, Me., Sept. 7, 1903.

Cotton is a failure here, on account of the Mexican boll weevil; will not average one-tenth bale to the acre; truck has done well and held up in price. Tomatoes, 35c. per peck; watermelons, 10c. and up each; butter, 12½c.; mutton, 6 to 7c.; beef, 5 to 6c. per lb.; eggs, 10c.; chickens, $3 per doz.; green peas, 60c. per bu. Young orchards made fine growth; bees did well and honey is 10c. per lb. Plenty of corn made; farmers are putting up plenty of feed and making a good deal of sorghum molasses. Land is worth, on an average, about $7 per acre, although uncleared land can be bought cheap. Wages, 50c. per day; school teachers, $50 per month. Had good rains all year. Cow peas fine.
Walpole Nockolds.
Oakley, Texas, Sep. 3, 1903.

Hendricks, in Central Tucker Co., Northern W. Va., 3 miles north of Parsons, the county seat, on line of W. Va. C. & R. R. R., at junction of Dry Fork R. R. Climate healthful; pleasant summers and not extremely cold winters. Soil, limestone clay, well adapted to most kinds of cereals and grasses. Summer has been rather cool and dry; crops are, therefore, below average, except grass and oats. Very little fall plowing done yet, owing to dry condition of soil. Prices: Wheat, 80c.; rye, 80c.; corn, 85c.; oats, 60c.; buckwheat, 60c.; potatoes, 55c. per bu.; butter 20c.; beef, grass, 3½c.; hogs, 6c.; chickens, 10c.; turkeys, 9c. per lb.; eggs, 20c. per doz.; hay, prime timothy, $20 per ton; horses, $75 to $175 per head; farm help scarce at $1 to $1.25 per day and board. P. F. not generally read. **A. G. Fansler.**
Hendricks, W. Va., Sept. 7, 1903.

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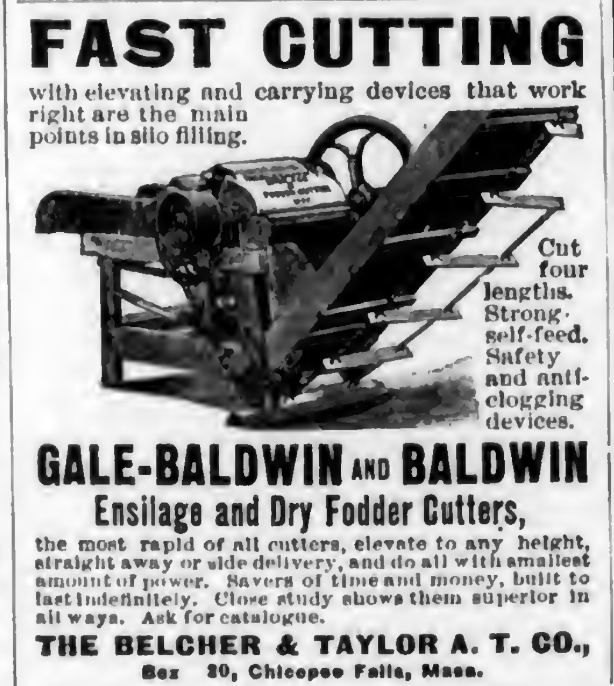

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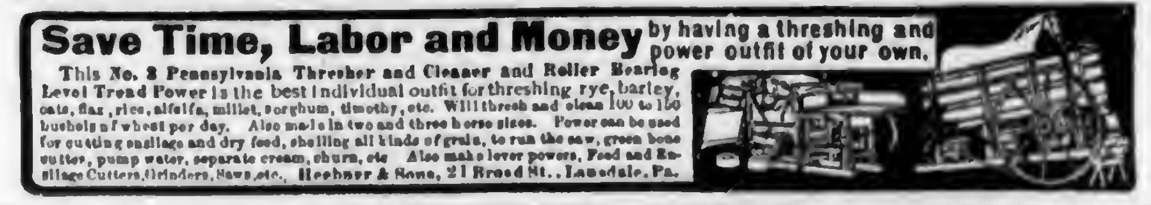

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Build Common and Swinging Stanchions.

E. F. Jordan, Cumberland, O., asks for an explanation of how stanchions are made, as he never saw one. He also wants to know how the gates between our box stalls are arranged so that the accumulating manure is not in the way of opening them. The common stanchion, which has been used for generations in the old dairy sections, is made about as follows: Stand up 2x4s, say, 3½ feet apart, along between cow floor and manger, the 4-inch sides facing them. Spike 2x4s on each side of these at the floor and also up about 5 feet high, running along parallel with the manger. Brace this frame so it will stand the strain of cows pushing and pulling. Now your rows of 2x4s, top and bottom, will be 2 inches apart. Between each two uprights will be a place for a cow. She is held by two pieces of lumber running up and down. One may be a 2x4 and spiked in place. This goes on one side of her neck, and should be so placed that the cow will be in the centre of the space between the uprights. The strip that goes on the other side of her neck should be about 1¾ inches by 4 and pivoted at the bottom so the top will drop over between the upper 2x4s and let the cow in or out. It should be a little thinner, you see, than the 2x4 uprights so it will play easily. Understand that both of these strips that hold the cow go between the rows of 2x4s, top and bottom. The pivot mentioned may be a half-inch bolt passing through the 2x4s, or even a wooden pin. These strips should be made of good, strong lumber. Oak is commonly used here. The top of pivoted strip can be fastened with a pin, or a latch; the latter is most in use here. This can be pivoted between the top 2x4s so as to drop down and hold the side-piece when it is shut against the cow's neck. The space between the upright pieces that hold the cow should be 7 inches for ordinary animals. This gives you an idea of the common stanchion. Some consider this rigid fastening as cruel. It is largely a matter of habit. Cows that are brought up from calfhood to be confined in this way during the winter seem to be entirely contented and able to do their best. Cows that have been used to being tied up, or not confined at all, will usually go down hill for a time, at least, when put in rigid stanchions. Years ago I often kept as many as 40 cows in these rigid stanchions. They had been brought up to it and seemed perfectly contented. But when we built our new barn and got ready to keep cows again we put in swinging, or turning, stanchions, because they give the cows more freedom, and they seem more comfortable, and at the same time they keep them just about as clean. The cows can turn and lick themselves clear to their tails, and they can swing their heads around on their sides when lying down. It is some more work to make a turning stanchion. Many have asked for a description of them, and how to make them. We have a 4x4 at the bottom, right on the cement floor, which makes the side of the manger next to the cows. Then a 4x4 runs along above it, about 5 feet high, with 4x4 posts up and down every 3½ feet. These are toe-nailed in top and bottom, and the whole frame, running the length of the stable, 80 feet, is well braced at the top and doweled into the cement floor with ½-inch iron pins, which pass through the 4x4. Now a cow stands between each two of the upright 4x4s. For holding her we have a frame that turns on a ½-inch iron bolt, top and bottom. These bolts pass through the 4x4s, top and bottom, with nuts on top. No nuts are needed below; just drive the bolts down. The frame is made of two pieces of 1¾x4, each 18 inches long, for top and bottom. Through these the bolts run on which the frame turns. Now into these top and bottom pieces one side piece, 1¾x4, is mortised, top and bottom, and held in place by two bolts through each end piece. This makes a solid frame. The pivoted side piece goes into a slot in top and bottom piece and is the same size as the other one. It moves on a half-inch iron bolt at the bottom. Most people make the frame of lighter material, and then it often breaks; ours never do. If real good, strong lumber was used, 3 inches wide for side pieces might be all right and would give the cow a slightly better chance to turn her head around. Now, these frames should be made 3 inches shorter than distance between 4x4 top and bottom rails. Under the frame put a block one inch thick, above it, one 2 inches thick; blocks, say, 6 inches long and both nailed to 4x4s. This helps the frame to turn readily, for one thing. The bolts on which the stanchion frame turns, top and bottom, of course, go through these blocks. Now how is the pivoted side piece fastened when the cow is in? The top block is 1¾ inches wide. The top of pivoted side piece comes up through slot in top of frame, just even at side nearest cow, 1¼ inches above at the other side, making a slanting top. A rectangular loop of ¼-inch iron rod, 11 inches long and 2 inches wide inside, passes around the top block, is held at one end by two fence staples, under which it turns, and the other end slides up on the slanting end of movable side piece, dropping down over it when it is entirely closed, and holding it shut securely. We have boards up and down to keep the cows from putting their heads into the wrong places. Bolts through top and bottom pieces, close to slots that pivoted side piece goes into, will keep it from splitting. Surely from this description you can study out how to build turning stanchions. The gates, Brother Jordan, are solid doors, only short, and hung so the bottom is up about a foot high. They must be heavy or horses will kick them to pieces.

Rye a Valuable Crop, but Makes Poor Hay.—J. S. Henry, Chromo, Col., wants to know about the value of rye made into hay, the best time to cut it, etc. Rye is a fine cover crop to grow on land that would otherwise be bare during the winter and where the soil is not frozen all the time. Then it is good to plow under the next spring, when it gets some 18 inches to two feet high, to add vegetable material to the soil, provided the after tillage is properly done. This means that the ground is harrowed and rolled, or otherwise worked down compactly, as fast as it is plowed, without a day's delay, if it is dry weather. Then only good results should come. If the ground is left, loosened by the rye, to dry out for some days, during hot, dry weather, and timely rains fail to come later on, crops may suffer where rye was turned in and those who do not stop to think may condemn the practice. A rye field is also an excellent place to pasture stock, on some soils and when the weather is open. Rye makes a fine early spring pasture for young stock and sheep. Rye can be cut for a soiling crop; that is, to feed green in the stable, and for a few days it goes pretty well. But it soon gets tough and is not relished by cows. Yet when it comes to rye for a hay crop, I cannot say a word in its favor. The poorest hay I ever had in the barn was made from rye cut when about in bloom. Stock simply would not eat it unless forced by starvation. It was musty, more or less, as rye is in bloom here, usually, before there is any weather fit for making hay. Perhaps this was part of the trouble with it. But when I fed it green to the cows they stopped eating it with any relish some time before it headed and bloomed, showing that it was tough and unpalatable then. Would that I had observed this at the time and been governed accordingly. I had a large yield of rye hay per acre, but that was all there was good about it. Had it been made into hay at the time it was relished green, say when about 2 feet high, the quality might have been fair, but there would not have been much of it, or weather to cure it. The writer has met with farmers by the thousand, in most every part of the country, for 21 years past, and heard almost every possible subject brought up, but he has failed to find anyone who was enthusiastic over rye hay after actual trial. He hopes he has saved many from the disappointment and loss that he met with. But do not be kept from sowing rye on stubble land wherever the weather is open during parts of the winter. The cost of seed is small and the saving considerable. It prevents plant food leaching down, as it gathers it up and stores it in its own growth. Then you plow in the rye, it decays and the crop can get it. It covers the surface and prevents the blowing away of fine particles, largely. It is quite a check on washing.

Health Hints.—Let the Home Life be Harmonious.—The following is the substance of a letter from a good member of the P. F. family. He does not tell me to withhold his name, but perhaps it is best to, then I shall feel more free to give the full particulars: "Wife weighs 125 pounds; I, 250. We have beds with springs and beds without springs. I think a hard bed better to sleep on than a soft and springy one. I prefer just a hard mattress or straw bed, with no springs under it. And I do not want the straw stirred up often, but left packed down. I know I sleep best on such a bed. But my wife wants a mattress, and feather bed on top of it and springs beneath the year around. Now, is this a proper bed to sleep in? You will confer a favor by deciding for us, as we never agree on this point. We have the windows all out in our four sleeping rooms and screens in, so we get pure air, and I want to have the conditions as favorable in the matter of beds. Then, again, ought not a wife to tell her husband how she spends every cent of her money? My wife says that it is none of my business as long as she pays the money for what she enjoys. I do not believe in women taking magazines. And do you think a wife ought to go to town, or to spend the day with a friend, unless accompanied by her husband? I never take my wife to any place evenings, as many do, and I think she ought to be content to stay at home and do for me. There is a vast difference in our tastes. She likes to go out and I do not. Kindly tell us what to do." I will gladly tell you, only hoping that you and your wife may think I am right, and put it into practice. Have your bed hard, just as you like it. Let your wife have one that is soft, just as she likes it. You are right about sleeping on a mattress yourself, and one can easily see how uncomfortable you would be sleeping on a feather bed in summer, weighing as much as you do. But now, a thin, cold-blooded woman may enjoy sleeping on a feather bed. I do not consider it a perfectly healthful way of doing. A good cotton mattress and springs would be better; but life is too short for you to be contending over any such minor matters. Don't do it any more. Let the good wife put the feather bed out in the sun a day now and then, turning it at noon, and no serious harm will be likely to come of her enjoying her bed as she likes it. Let neither of you find any fault with the bed of the other one any more, please; but rather be glad to have your dear one suited. By the way, we are more and more pleased with cotton mattresses. We have them on all our beds now. We can buy a choice one in Cleveland, as good as is made, for $12. Just as good a one, only made of cotton not quite as white, costs only $10. When you pay more than above figures you will not get value received. I know they are being advertised for more; we have one of them, too. It is customary to call them "elastic felt" now. This is simply good cotton made in large sheets. They are very durable.

Now to come back, my dear friend, I believe you are a good, honest, true man. But there are some matters that perhaps you have not thought just right about. We are all troubled with being wrong at times. Perhaps it may be all right for a wife to tell her husband how she spends every cent of the money she handles, if the husband accounts to her for every cent he spends, as faithfully. There can be no harm in this if the parties prefer to do this way. But really, I like it better to look on marriage, from a business standpoint, as a partnership. Then let there be entire confidence between husband and wife, each one spending little sums for personal matters without accounting for the money to the other, except in a lump, so accounts may be kept straight; but consulting together about any large outlays. I never ask my wife to tell what she spends money for; do not want her to. I wish her to feel free to enjoy in her own way a little of the money she has faithfully helped to earn. But it would not be pleasant to have her tell me it was none of my business how she spent it. That is not a pretty way of expressing the matter. There is no danger, however, because I recognize her individuality enough to want her to do as she pleases, whether it be to get a magazine that suits her fancy, or what not. Try the same plan, my friend. It is just and right. Now see how much alike we are. I, too, like home pretty well, particularly evenings. Naturally, my wife likes to go more, and I always encourage her to. I want her to get enjoyment in her way. Surely she goes to town, or to spend a day with a friend, or a week, if they live some distance off, alone, or with others, often. She has a horse and little phaeton of her own, and the horse is always ready, never used for farm work. Bless you, I want her to have a good time, while I take comfort in my way. My dear friends, we must not be overselfish. Go out with your wife sometimes, even though the home seems more pleasant to you, who have been out all day. She has not, and will enjoy, yes, needs the change. And just as kindly she should sometimes yield to your wishes, when she can see how sweet home and her society are to you. Let us each be thoughtful of what is pleasant for our loving partners as well as for ourselves. We will all be more happy. Do you ask why this was put under the head of "Health Hints?" Because where there is lack of harmony, and friction in the home, where selfishness is more prominent than love, it will tell on the health of wife or husband in time, as well as on the future life of the children. Harmony and happiness in the home life help about bringing perfect health.

T. B. Terry.

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Straight Rail Fences and Double Gates.

F. H. SHIPLEY.

I have tried most kinds of fencing, for it is one of the expensive things on my farm, coming next after my fertilizer bill. The annual expense of fencing on my 160-acre farm with its two miles of line fence, five cross fences and a half mile of lane, will easily amount to $100. My father did not believe in fencing, said it did not pay, that it was better to soil. But having inherited the farm, I am persuaded that fences add greatly to the appearance. I have used both barbed and plain wire, always with cases of injury to stock. As bad an injury as I ever saw came from a horse getting its foot over a plain wire and pulling back, nearly severing the foot at fetlock. I have plenty of chestnut fence timber and it would cost me for posts and rails, 25 cents per panel from the stump, put up five rails high—2 cents per hole, 1 cent for sharpening rails, and the rest for setting posts and placing rails therein. The old worm fence should be done away with, for I believe it to be the nest of nearly all our weed pests. Besides, it is unsightly and occupies more ground than any other fence. A board fence looks well, and does well. It is first in appearance, but we cannot get all good plank. Then we must cover the joints, which causes the plank to rot. Without this the fence will last much longer, as it will soon dry out, but looks are against finishing a fence in this way. I have built fence by driving two stakes, wiring them and laying rails between. This has much in common with the worm fence. I have also made some fence by setting posts, sharpening rails and spiking them to posts, one end of rail on one side of post, other end of rail on opposite side of next post, thus zig-zagging rails on posts. I have never seen a hedge fence of any considerable length without gaps. The necessary trimming would hardly be done on a farm, and is a task to perform in any case. The post and rail fence is the best one for me, but I am seriously of the opinion that it is cheaper to soil stock. If I had no fence timber, I certainly should use no kind of wire fence. In that case I would soil altogether, having a few lots about the barn to feed in. The manure would thus be kept in bulk, and with $100 per year now expended for fencing, I could hire a man to attend to the soiling and be much better off in the end. I could also feed more stock from a smaller acreage, waste considered. Those of our milkmen who soil make the most money. I have observed lands near our city which used to cut three tons of hay per acre that are hardly furnishing good pasture now, due, I believe, to pasturing. My only reason for fencing is to be found in the improved appearance of the farm and home, and I have almost concluded it is to please the eye, rather than for the real benefit to be derived therefrom. Without fences our country would not be so homelike. There would be nothing to attract the eye except one vast expanse of forest, hill and dale—and homes. The fence breaks the monotony of the view, isolates the farm, in a certain sense, and to some extent declares the farmer. The life of any fence, except special or growing ones, is not much over ten years; that is, until repairs must begin. A few posts and rails or planks should be kept on hand for repairs. With fencing, as with other things, a stitch in time saves nine. For line fences I prefer to make my post fences four rails high, and for inside fences, three rails, leaving a space of about 18 inches between lower rail and ground. This makes the fence row easily kept clean, and when the posts rot off I can sink them lower and thus prolong the life of my fence. In some mountain districts, also in the Valley of Virginia, they have a decided advantage in the use of locust posts. They never rot, it seems to me. I have seen stakes marking the lines of farms which have been in place an incredible number of years, while my locust is hardly as good as chestnut. The cost of their posts is estimated at 15 cents each, and will last, say, fifty or more years. If a man had sufficient capital this would, in the end, be the material for posts. Railroad transportation would be costly; but still a farmer could not well afford a present outlay of, say, 25 cents for a post. The railroad which passes through my farm had some fencing to do near me, and bought posts at a mill for 12 cents each, all ready to be put up. I thus learned that getting such material out was made a business at some places, and was done as cheaply as I could do it with my own material, though mine would probably be somewhat better.

I am using double gates, the two together being 15 feet wide. My binder can pass through without taking it down, while for most purposes it is only necessary to use one side. I put a post in level with ground, from which a brace hooks to gate on one side. I have a latch on other gate, also an iron which falls over opposite, making them double fastened and secure.

Baltimore Co., Md.

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Effects of Intense Cultivation.

A NUTMEG GRANGER.

The local Grange of Higganum, Conn., through their master, Mr. Fred. Kelsey, with Dr. Smith as chairman, recently invited the State Pomological Society and the Dairymen's Association to a field meeting, to show them in part what can be done by intense cultivation. The invitation was responded to by several hundred representative men and women from different parts of the State and county. Dr. Smith and his committee met them at the Higganum station, took them to their Grange headquarters, and then to the orchard and grass field of George M. Clark. They found an orchard of 5½ acres containing 1,425 trees, on a poor, gravelly knoll that had been cultivated for five years with Clark's Double Action Cutaway Harrow, one hundred times each way, at a cost of $350; $70 a year, or $13 per acre. Frost had killed the second and fifth crops; in the third and fourth years the trees had produced 1,500 baskets of very large plums, at an average value of 50 cents per basket—$750. These trees have made an average growth of 20 feet since setting, and have been cut back 12 feet. Average growth this year and last, 300 feet to a tree. Trees set at the same time, not cultivated, same soil, grew less than 5 feet, and bore no fruit. They also found positive evidence of grass culture, with intense cultivation, of six tons of well-dried hay, first crop; and that a second crop of two or three tons per acre was assured this year. They also found what few, if any, had supposed possible in the New England climate—a first crop of timothy, matured, 5 feet high; a second crop matured of 42 inches; a total of 90 inches—7½ feet growth this year, and a five-days' growth on a third crop. They also saw a field where over seven tons of hay to the acre were cut on July 25th, with more than two tons to the acre still standing. Clark's grass farm is a rough, rocky, almost abandoned farm, reclaimed, producing wonderful crops, mainly by reason of intense cultivation; and the Double-Action Cutaway Harrow has done the work.

Farmers are familiar with the reports of a corner of this tract, only seven-eighths of an acre in area, that has been mowed fourteen years and produced 111 tons of hay! This land was like the rest in the beginning—covered with stone, bushes and saplings—and was worked more than forty times during the two years before seeding. That thorough tillage succeeded in killing out all foreign growth was evidenced by a glance over the rank second growth. Not a weed of any description was in sight. As a matter of fact, the stand of grass was so dense that a weed must have been choked before it reached sunlight. Of course this land has not been left to thrive on the original intensive cultivation alone. Five to six hundred pounds of bone, potash and nitrate of soda in equal parts are applied when the grass is well started in spring, and about one hundred and fifty pounds for the second crop, applied after the crop has started. Counting everything chargeable to it, this hay is landed in the mow at a cost of less than $5 per ton, and the system nets at least $50 per acre. As a practical demonstration, a farm hand hitched a double team to a Cutaway harrow. Three or four men in the party piled on for weight, and the really light pair of horses pulled the load through a rod of stones and brush and return. The result was simply wonderful, although the tool used was not intended for that class of work. In the grass ground the tool pierced the turf quite well in one trip and return. In preparing this last class of land the plan is to cut it up by crossing and recrossing at angles a few times, then plow; after that go at it again with the cutaway. In the end it makes everything in the land available for plant food at once.

Connecticut.

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Cow Peas in Maryland.

[The following letter to the Editor was not intended for publication, but we feel sure that Colonel Earle will pardon the use of it, since its contents are of great general interest. We fear that in the burying of the great growth of peas and weeds our old friend (for though over 80 years of age, he is still an active farmer) is making a mistake, and that the result on the timothy will not be as good as he may anticipate, unless he uses lime liberally on the land. In my own experience the burying of so much green growth in warm weather has been disastrous to a fall-sown crop. We know that Colonel Earle, on what he calls the "poor intensified farm," makes, usually, 40 bushels of wheat per acre, but fear that if that buried mass of vines is sown to timothy with wheat, he may have the result we once had, a tremendous straw growth, wheat all lodged and grass smothered. No wheat and no grass. This was on a limestone clay, where green manuring could at times be practiced, while on the lighter soil of the Eastern Shore of Maryland the souring of the soil may prove disastrous to growth at all.—Ed.]

Centreville, Md., Sept. 4, 1903.

Prof. W. F. Massey:

My Dear Sir.—I have read the balance of your address in the P. F., and get many good hints from it on cow peas. But, really, I must say that you can hardly grow such as we grow—they are perfectly enormous. I am at work today on a 2-acre lot so filled with weeds that I have abandoned it for hay, although picked over twice. Weeds at least six feet tall and covered to top with pea vines. It was disked over three times, reversing the way each time and then running as deep as possible with a large Oliver plow. Could not turn it, and am now running a two-tine disk plow, with a second man following with a fork to put the vines in the furrow, and with all it makes a bad show, and will require an immense amount of work to get it in order for seeding to timothy. I have in all about 20 acres of magnificent peas, clean of weeds, to cut for hay, except eight acres to be fed off by hogs in late fall. I will take your hint and take off the track marker, but still I have fears about mowing them. They grow about 4 feet tall and now flat, with vines all over the top of them, and are full of blooms and pods, and will be ready to mow in ten days. I agree with you in the use of the tedder. On my heavy grass I use the tedder right after the mower. I have never saved cow pea hay. Another hint is to avoid heating in the cock and losing the leaves, for this loss of leaves has been a drawback here. I hope to have room to put all under cover, but if not will try your plan of stacking and covering with straw. I have had the article in last week's P. F. copied in our paper, the Centreville Record, this week, in article on my poor intensified farm. My fallow in preparation for wheat has already been harrowed over three times, and disk will be kept going until seeding time. I am truly glad to know that you will be at our Institute in January.

Yours truly, Sam'l T. Earle.

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Fencing in Central Maryland.

P. T. STABLER.

I was raised with the old-fashioned worm fence on the farm, and post-and-rail fence around the buildings. Both of these are of the past. I have used five different styles of wire fence. After having three or four horses and several cows injured, I have discarded barbed wire. Have tried smooth wire, with stays, made of No. 12 wire, woven in on every strand, also a stay of doubled and twisted No. 14 wire. These stays are too light to hold the fence up between posts. When a horse reaches over the light stay bends down and does not come up any more; also wherever a man climbs over the stays go down to stay. I am now using a fence 5 feet high made of seven strands of No. 9 wire stretched with a ratchet attached to every wire at one end and two strong spiral springs to hold it taut. These springs will give back in cold and spread out in warm weather, keeping fence stretched the year round. The best stay is made of No. 7 wire thoroughly fastened to the strand wire. Five stays to the rod will hold a man's weight. If the end posts are not properly planted and braced, the whole fence is defective and a botch. This is the keynote of all good wire fences. I cut my end posts 10½ feet long, from 6 to 9 inches in diameter; dig a hole fully 5 feet deep; cut notch in post for a piece of 3x4 scantling nearly as long as hole is wide; nail fast 4 inches from bottom of post to prevent twisting or raising; ram hard. Set next post 8 feet from first one, notch in a brace 2½x4 inches from top of end post to second one at the ground; then put a piece of No. 9 wire around bottom of end and top of second post, put a stick in between wires and twist the two together until very tight. Staple the wires at posts so they will not slip. Next, plant posts one rod apart, 2 feet in ground and 5½ feet out; put on seven wires spaced to suit, say top space 11 inches, then 11, 10, 8, 7, 6, 7. Stretch top wire first, staple lightly, full 5 feet high; stand off to one side, look along and direct where to move staples to take out all irregularities. With a wrench on these ratchets you can stretch 60 to 100 rods of fence. Do not drive staples up tight; allow room for wire to stretch when run against. The setting and bracing of the end posts will determine whether you will have a good or a poor fence—don't forget that. If the steel and wire trust does not run wire up on us to over $1.75 to $2.00 per 100 pounds, a fence made of Nos. 7 and 9 galvanized wire will still be the cheapest good fence the farmer can put up, costing less than any rail or board fence, counting labor, hauling and all. Cost of material for 75 rods of fence (not including posts) is as follows:

Wire (7 strands No. 9 and 300 lbs. double stays No. 7)	$15.00
2 heavy springs @ 25c	.50
7 ratchets @ 8c	.56
Staples, say	1.00
75 lbs. stay locks @ 8c	6.00
Total	$23.06

This is about 32 cents per rod for fence, exclusive of posts and work. We do all the work with farm force.

Montgomery Co., Md.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Crimson Clover on Tobacco Land.—J W. Leary, Coleraine, N. C.—"I wish to sow my tobacco land in either crimson clover or rye to plow under in May for corn or cotton. Which will be the better? Will cotton grow on a green crop of clover turned under? Would it be well to sow phosphate and potash according to your formula before turning under? Have sown clover in cotton and it is now up and growing and will follow the pea crop with a cover for spring hay. The P. F. is my text book and I cannot do without it." We would use the crimson clover, by all means, as the winter crop, and would apply to it this fall the dressing of acid phosphate and potash, and are sure it will do more good in this way to the corn or cotton crop next spring than if you defer it until the spring. It will give you a heavier growth of clover and will all go back to the soil for the cotton or corn, for you cannot lose these as you can ammonia. One of the greatest improvements we know of in a cotton crop on an old field was from plowing under crimson clover in the spring. If the growth is very heavy it may be best to cut it or pasture it down in the spring. But put the fertilizer on this fall.

Cover Crop in Oregon.—W. L. Ray, Myrtle Point, Ore.—"I have some sandy soil that overflows in winter and is apt to wash. It is now in corn and I want to sow something that will prevent the washing and give feed in the spring, as it is almost too cold for corn, and I am running a dairy." The best thing we can recommend for you is the hairy vetch. It would have been better to have sown it in your climate the last of July or early August, so as to have had a stronger growth in the winter. But it is a very hardy plant and can still be sown. Use about 25 pounds of seed per acre. You can get the seed, we presume, from seedsmen in Portland or San Francisco; H. H. Berger & Co., San Francisco, probably.

Grasses in California.—W. A. McFarland, Fall River Mills, Cal. — "We are raising stock and want to get our lands here into tame grasses for hay and pasture. We are in Northern California, 3,200 feet above the sea, and have snow and zero weather in winter, but no rain from the middle of June to middle of September. Have some land that is covered with water from December until July, when the water dries up and the grass makes a good growth, but hardly enough to pay. Is there any tame grass that could be grown on this land, which cannot be drained, as it is a mountain basin. We have other lands that get pretty wet in winter and produce good wheat. We are thinking of trying Russian brome grass. Is it a good, hardy grass with deep roots? Will be glad to have any advice you can give." We do not know of any grass that you can use that will do any better on the overflowed land than the native wild oats and other grasses of California. Under the conditions you name on the other lands we think that we would make a forage crop of wheat, sowing with it the hairy vetch, which is a winter growing plant and very hardy. These combined will give you the finest hay crop you can grow. None of the perennial grasses of the East would withstand your summer droughts. Probably you can get better advice by writing to your Experiment Station at Berkeley, Cal. They are in a better position to advise you than we are, as they have been studying the climatic conditions of your State and will be glad to help you.

Mildew on Melons and Cucumbers.—P. A. Poole, Victoria, N. J.—"Enclosed I send a leaf of cantaloupe and of young clover. We had a pickle patch that should have given 50,000 pickles, but we got 6,000. The vines were affected as this cantaloupe leaf is, and the cantaloupes are going the same way. Is the same thing on the young clover leaves that I send? What can we do another year to combat it? We have a fine stand of clover in millet, but it looks like this all over. Another patch a few rods distant is fine." The melon leaf sent is affected with the downy mildew. You can keep it down next season by beginning early and spraying every ten days with Bordeaux mixture. The young clover has probably been scalded by excessive rains and the crowding of the millet combined. We think it will come out all right.

Lime, Sulphur and Salt Mixture.—Ontario Boy, South Boston, Va. — "On page 152 you mention a lime, sulphur and salt mixture for spraying for San Jose scale, but do not tell how to make it. I have a young orchard which I do not know is affected with scale, but I think of applying this, as it will do no harm. I cannot refrain from seconding what you said to young man from Ohio. I am the eldest of a family of five, four of whom are now men. I staid home with father and mother until 25 years old, and now, after 14 years, have no reason to regret having done so. Other brothers did likewise, and our parents, now that they cannot work, are comfortably fixed in their old age, and we boys are still young and have as much in dollars and cents as we would have had if we left home at 21; and my advice to all young men who are blessed with as good parents as the Ohio boy must have, is not to be in a hurry to leave home, for in the years when the working days of father and mother are over there is a genuine pleasure in knowing that you did your best for them, even if there is no other compensation." The following is the recipe for the lime, sulphur and salt mixture: Unslaked lime, 30 lbs.; salt, 15 lbs.; sulphur, 20 lbs.; water, 60 gallons. Take 10 pounds of the lime, 20 pounds of sulphur and 20 gallons of water and boil until the sulphur is thoroughly dissolved. Then take the remainder of the lime and salt, slake and add water enough to make the 60 gallons. Strain this and spray the trees while it is warm. Apply this when the foliage is off the trees. We are glad to have your experience in regard to staying on the farm, and believe you are right. On the other hand, we have a letter from a reader in Maryland, who evidently had eaten something that disagreed with him, who says that the poor Virginia farm will not make more than enough to feed a horse and a cow, and that the negro laborer is utterly worthless, and thinks the Ohio boy had better stay in Ohio or go to Oklahoma. There are certainly large areas of poor, run-down land in Virginia, but there are also large areas as good as Ohio or elsewhere, and as a farm laborer, we who have been working negroes, slave and free, for nearly half a century, know well that for the South there is no better farm hand. There are worthless negroes, and too many of them, it is true, but there are negro farm hands as reliable as any, and we have them, men who, in our repeated absences, keep up their work as faithfully as when we are home. Our friend who thinks hard of the negro has had an unfortunate experience, and though living in a Southern State, is probably a Northern farmer who has not learned how to manage the negro. If the politicians would let him alone, there would be little trouble with the great majority of the negroes. We do not ask more faithful service than we get from the negroes that have been in our employ for years, and if the Maryland negroes, where our friend lives, are so utterly worthless, we would try to find some better ones, for they are not all bad by any means, no more than the Virginia lands are all poor.

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"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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Power on the Farm.—The subject of power on farms is becoming of more importance each year. The farmer who makes the greatest success in life is he who studies most carefully how best he can save his personal strength and time, in order that his brain may be more active, and thus enable him the better to cope with the complicated business situations now so frequent in the farmer's life. There really is no excuse for a man exhausting his physical strength, and thus rendering himself practically incapacitated for anything else, when he might just as well save his strength by introducing modern machinery to do the heavy work. Farm machinery of modern type is doing away with the great manual labor which used of necessity to be performed by hand. Perhaps the greatest of all achievements in the line of labor-saving machinery for the farm is the gasoline engine, which serves a multitude of purposes and is really so practical and cheap that it should receive the attention of every progressive farmer. During the past few months there has appeared in the columns of the P. F. the advertisement of the Fairbanks Gasoline Engine. The corporation of the Fairbanks Company emanates from the invention of scales. Lever scales were invented in 1830 by Erastus and Thaddeus Fairbanks, at St. Johnsbury, Vt. Scales are made for all purposes; and with the regular and special goods they now manufacture about 5,000 different modifications of scales. To facilitate the scale business, and have warehouses in all the different large cities for the easy distribution and construction of scales, it was necessary from an economical standpoint to take up some other lines of goods. This has been done, until now the Fairbanks Company is the largest supply house in the world, carrying immense stocks of scales, valves, gas engines, railway, mill and factory supplies of all kinds. The gas engine department was established some six years ago and has steadily grown until it is now one of the largest departments of the Fairbanks Company. They can furnish engines for all purposes—in the vertical type from a single horse power to ten horse power, and in the horizontal type from three horse power up. The vertical type is especially adapted for the farm, and can be used for pumping, threshing, cutting wood, etc. The engines are perfectly safe in every respect, cost very little to run, are easy to manage, and are very durable, having no delicate parts to get out of order. Farmers should be interested in this matter of "Power on the Farm," for it certainly means a great benefit to them if they can possibly avail themselves of it. Pamphlets and books of instructions are sent free if you mention the P. F.

After Abortion Cows should be injected with Hood Farm Breeding Powder. Used in connection with Hood Farm Abortion Cure it is the best means of preventing abortion.
Two sizes of each, $1 and $2.50. To any railroad express point in U. S., 25 cents additional. C. I. Hood & Co., Lowell, Mass.

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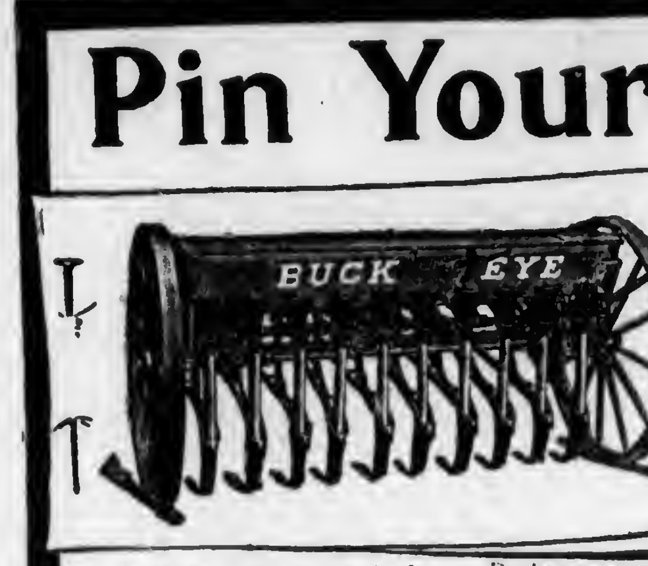
The YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No complex gearing to get out of order. Boxes are close to ground. Fully Guaranteed. Easily regulates quantity of seed or fertilizer, and sows with regularity. Weight, Only 700 lbs. Agents Wanted. Write for Catalogue. THE HENCH & DROMGOLD CO., Mfrs., York, Pa.



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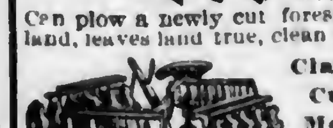

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Grazing Crops for Hogs.—Part 1.

PROF. A. M. SOULE.

It is frequently said that pork production cannot be engaged in as extensively in the South as it should be, because of the price of corn and other grain. In the first place, more grain should be grown. The land is capable of yielding it if given better care and attention. Aside from that, where a proper succession of soiling crops is utilized, but a very small amount of corn is necessary to produce fine hogs. Evidently nature intended that the South should produce the finest quality of bacon, judging from the variety of cereal and leguminous crops which can be utilized for hog pasture. There is no reason why any person living in the South should have to buy his pork products from any other section of the country, and there is no reason why the Southern farmer should not be able to make pork through grazing crops at from 3 to 4 cents a pound, though it retails at 14 cents, by employing one of the plans suggested herein, several of which have been formulated to meet the special requirements of the different sections of the country.

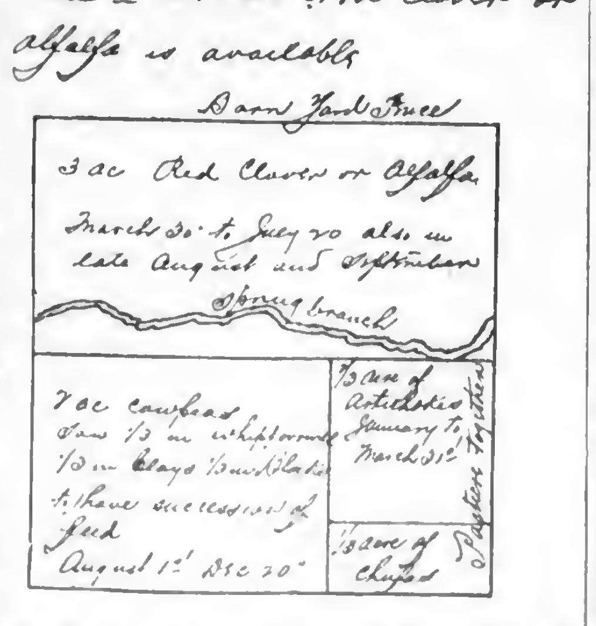
So it appears that the South can make cheap pork through a minimum supply of corn, say, one ear per head per day, through grazing. The soiling system should be followed whenever circumstances will permit, because it enables the hogs to obtain plenty of exercise and to live out in the open air, and thus keeps them healthy and in a thriving condition at all times. Hogs will not do well in a warm climate when penned up closely or confined to small areas of land which are liable to become breeding grounds for diseases of various kinds. The best preventive of hog cholera is the open range with plenty of fresh air and exercise and an abundance of cooling, laxative foods, such as the soiling system provides. Land intended for the production of soiling crops should be selected for a term of years and so arranged as to provide the hogs with a permanent sod or pasture in order that they may obtain free access to the various soiling crops used as supplemental food as they mature.

The number of hogs the land will carry depends on many conditions, as the nature of the soil, the length of the crop season, the character of the crop, and the amount of rainfall. Red clover or alfalfa should carry from four to six hogs per acre for about three months, say March 31st to June 30th; cow peas or soy beans, six to eight hogs per acre for two or three months; artichokes and chufas, 8 to 10 hogs per acre for two to three months; Spanish peanuts, eight to ten hogs per acre for one to two months; sorghum or sorghum and cow peas, four to six hogs per acre for two to three months. A good Bermuda or blue grass sod (the latter containing a plentiful supply of alsike or red clover) will carry about as many hogs through the spring and summer as red clover or alfalfa.

PLANS FOR SOILING HOGS.

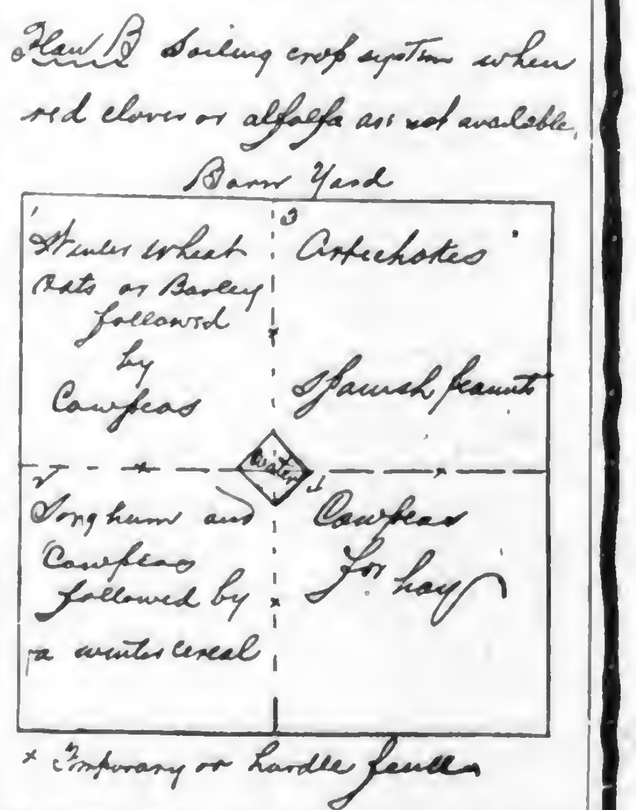
The amount of land needed will be determined by the size, age and number of animals kept, and the character of the crop the land produces. Keeping in mind the number of animals each crop should maintain for the period outlined under the average soil and climatic conditions prevailing in the South, it will not be a difficult matter for the farmer to determine about how much land he should set aside for each of the several soiling crops he proposes to employ. The suggestions in this article are, of course, only approximate, and must be modified to suit local conditions. It is impossible to make them definite, owing to the varying environments met with even in comparatively small areas of country.

PLAN A.—*Where Red Clover or Alfalfa are Available.*—This plan contemplates the pasturing of red clover or alfalfa from March 30th to July 20th; it would also furnish some pasture for late August and September. As springs are found on nearly every farm in Tennessee, it will generally not be a difficult matter to locate a pasture so that running water may be available for drinking purposes at all times. There is a serious objection, however, to having the stream run through the pasture in that it is liable to become fouled, and if any of the hogs become diseased the water is almost sure to be contaminated, not only conveying the disease to other hogs, but polluting the stream throughout its downward course. Alfalfa will probably furnish more pasture in the South than red clover because of the readiness with which it springs up after it has been grazed over. When the clover pasture is exhausted, put the pigs on cow peas. One-third of the area cultivated in cow peas should be sown in Whippoorwills, one-third in Clays, and one-third in Blacks, in order to furnish a succession of feed. This pasture can be utilized any time from July 1st to December 20th, if the Whippoorwill peas are sown early enough. In order to have them ready on July 1st they should be seeded about the last week in April or the first week in May. The amount of pasture obtained from the cow peas will depend largely on the quality of the soil on which they are grown. To have them give their best results, an application of 200 pounds of acid phosphate and 50 pounds of muriate of potash should be made to the land before seeding peas.


Plan A Where red clover or alfalfa is available
Barn Yard Fence
3 ac Red Clover or Alfalfa
March 30 to July 20 also in late August and September
Spring branch
2 ac cowpeas
Sow 1/3 in whippoorwills
1/3 in Clays 1/3 in Blacks
to have succession of feed
August 1st Dec 20th
1/3 acre of Artichokes January to March 31st
1/3 acre of Chufas
Pasture together

Soy beans could be used in the place of the Black cow peas if deemed advisable, but they cannot be substituted so well for the other varieties, as the best varieties of soy beans do not mature so early in a Southern climate as the Whippoorwill peas. The cow peas or soy beans should be seeded in drills 24 inches apart, and cultivated lightly with the weeder two or three times until they begin to vine, after which they will need no attention. It is not wise to turn hogs on a very large area all at once, as they tramp down and destroy too much of the crop. On the other hand, it is not wise to confine them to too small areas.

Artichokes and chufas should be available for pasture under this plan from January to April. They should be pastured together in order to get the best results, as they make a very well balanced food when fed together. Enough meal should be fed during the winter months to keep the animals in good condition; the amount necessary will be regulated largely by the weather. For brood sows a slop of bran and shorts will be the best food, while a little ear corn should be fed to the older hogs. This plan contemplates the employment of six acres of land, enough to maintain from 25 to 40 hogs throughout the year, or, in other words, three to five brood sows with their progeny.


Plan B Soiling crop system when red clover or alfalfa are not available.
Barn Yard
1
Winter wheat Oats or Barley followed by Cowpeas
3
Artichokes
Spanish peanuts
Water
2
Sorghum and Cowpeas followed by a winter cereal
4
Cowpeas for hay
x Temporary or hurdle fences

PLAN B.—*Soiling Crop System for Use When Red Clover and Alfalfa are not Available.*—This plan enables the practice of a rotation of crops, and provides pasture for the hogs throughout the whole year, while permitting of the general improvement of the soil through the droppings of these animals. The pasture should be permanently fenced on the outside, temporary fences being used at X, as circumstances make necessary. The water should be protected so that the pigs cannot use it for wallowing. Troughs can be arranged in each paddock so the hogs can get at the water without fouling it.

On Section 1 sow winter wheat, oats or barley about September 1st. The crop should be ready to pasture from November 1st to May 15th, except in very bad weather. On the 15th of May break the land and sow in Whippoorwill cow peas in drills 24 inches apart, using some phosphates and potash, as indicated under the previous topic. The peas should be ready to pasture about the 15th of August to November 1st.

On Section 2 sow Red Head or Amber sorghum with Whippoorwill peas in drills 24 to 36 inches apart. If the land has been fall plowed, so much the better, as the crop can then be put in earlier, seeding April 20th to May 1st, using one peck of sorghum to one bushel of cow peas. Commence pasturing this crop as soon as the sorghum has made a fair growth, say about the 25th of May, and it should last until September 1st if judiciously pastured.

Divide Section 3 into equal parts. Plant one-half in artichokes in the early spring and prepare the land as for Irish potatoes in drills 24 inches apart. On the other half plant Spanish peanuts in drills 18 to 24 inches apart and one foot apart in the drill rows. The artichokes will furnish pasture through January, February and March and the peanuts in October, November and December.

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75 & 77 YORK STREET,
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248 MCDERMOT AVENUE,
WINNIPEG.

Section 4, which is unoccupied, should be planted in cow peas in the early spring for hay, which should be ready to cut about the first of August, and the land may then be broken and prepared for seeding to winter cereals sown the previous year on Section 1. Then bring Section 2 on Section 1 the following spring and the rotation is complete. The artichokes will not need to be reseeded unless the hogs are left on the land too long. This plan contemplates the use of four acres of land, three of which are to be pastured. Sections 1 and 2 should maintain from four to six hogs per acre, and Section 3 eight to ten, so that Sections 1 and 2 must contain two acres in order to provide as much pasture as an acre of artichokes and peanuts.

Tennessee Experiment Station.

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Tuberculosis.

Is it not strange, that while veterinary writers are quick to discover symptoms in animal tuberculosis, they are slow in detecting the cause of its fearful ravages, and the simple preventive remedy and cure? First of all, note the fact, that in our forefathers' day, when cows and all other stock, if housed at all, were kept in open barns where, here in New England, the winter wind whistled through the cracks, and little snow drifts (not always little, though), were often found in the morning, in the abundantly ventilated stables. This was cruel for the cattle, and they were liable to come out "spring poor," in April, but if well fed, they were bright and healthy, and farmers never had a fear of tuberculosis. But lack of milk production with the avaricious, and pity for the animals from the humane, developed a craze for the clap-boarded barns and close, warm stables. Milk values increased and the milker complained no more of chills and cold fingers, but to offset came the poison from the many times re-breathed air, which produces the virulent, swarming germs of tuberculosis—and dairymen lose thousands of dollars by the wholesale slaughter of graded stock, that fails to stand the tuberculosis test. All students of physiology and hygiene know that plenty of fresh air, impregnated with ozone, is an absolute necessity for the lungs (whether of man or beast), and deprived of it, the whole body suffers, through black, carbonated blood, which permeates and poisons the whole system. The all-wise Creator provided an atmosphere to just meet nature's demand and prevent the generation of carbonic acid, and so leave clear, perfect room, for the working of the vast machinery of which the animal economy consists, and which through abundance of oxygenated fresh air vitalizes the whole and produces health and life. With this demand of a plentiful supply of pure air fully met, strength and power of resistance are almost invariably equal to the warding off of Prof. Koch's bacilli. But confine a dozen cows in a close stable with only the stipulated ventilation at the four corners of the barn, and considering the large volume of air that even one animal requires to properly inflate the lungs, there remains no alternative but that after a little time the whole herd must breathe, over and over again, their own vitiated and poisoned air (after once breathed), which to the weaker ones is sure to prove an adequate cause of the speedy development of tuberculosis. Now for the preventive and cure, which is simple and obvious. Throw open the barn doors and windows, or, what is better, except in stormy, zero weather, turn out the stock and let them be invigorated by the sunshine and breathe the pure, exhilarating air of the heavens, just as the God of nature designed when he created the "firmament" perfectly adapted to fit the requirements of the animal system, and called it "good." This proceeding may for the present lessen the quantity of milk for the market (though not the profits in the long run), but what consistency has that plea in view of the wholesale, cruel slaughter of bovines that has been going on in New England for the past few years? None, in my judgment. A READER.

Grafton Co., N. H.

[It is highly probable that tuberculosis was prevalent under the former conditions our correspondent names, but veterinary science had not then advanced to its identification. No doubt the close housing of cattle in the North tends to spread the disease as the barn becomes infected. But the disease also prevails in the South, where cattle are not closely housed. Doubtless there have been thousands of cattle slaughtered which need not have been, so far as their value in the dairy is concerned, for it is extremely rare that the milk is affected, and even admitting that the disease is the same in cows and mankind, the chanches of infection through milk are very remote. Still, every tuberculous animal is a source for future infection in the herd, and should be removed. Then if proper hygiene is adopted, as our friend suggests, our cows may be kept healthy.—ED.]

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Osteo-porosis.—Will you please tell me what is the matter with my colt? It is a yearling and is in good condition. Its front shoulders seem to be slipped forward, and it makes it walk "tangle-footed," as though it was paralyzed. It has been this way several weeks and does not get any better. I had a doctor to examine it and he thought it was its spine or spinal cord. What shall I do for it? G. T. HARRIS.

Limestone, Tenn.

It should be understood that the veterinarian cannot be expected to locate cause of lameness without examination. When a certain condition is known to be present we are always glad to advise as to proper treatment. We would suspect that in your district the condition present may be due to osteoporosis (big head), which affects all bones of the body. There is no cure, but animals sometimes do fairly well when well fed and given free range on pasture.

A Dummy.—Would like to know what can be done with our horse, which has been sort of dumpy and dull-headed for the last two years. He generally wants to turn to the off side when allowed his own way, but only through the summer. He is a rather fiery horse, but since hot weather has set in this year he is much worse. His head seems to be very heavy; he eats hardly anything and always has some food in his mouth. He is fed mostly on oats, and hardly ever lies down. H. B. GRAYBILL.

Penn, Pa.

The horse was previously overcome with the heat and is now what is termed a "dummy" by horsemen. This condition is due to softening of the brain and is incurable in most cases, and certainly in this, as it has been present for two years. You can help him some by giving a drachm of iodide of potash three times daily until a discharge comes from the eyes, then quit for a time. He will never be serviceable during hot weather.

Death of Cow.—I would like to ask you if you can explain me the death of one of my best cows? Cow came fresh from calving and was all right for three days. Was fed during this time on three bundles of fodder and 12 pounds of bran. On the fourth day she was let out with the other cows on an alfalfa field, but where there are more weeds than alfalfa. To get to this field the cows have to pass a swamp, where they often drink the bad water, but I cannot state if this cow did. When we let her in at 12 o'clock she seemed still to be well; at 3 o'clock when we milked, there was also no sign of illness; 4 o'clock she became very feeble, swayed to and fro while walking; was very excited; at 5 P. M. fell down to raise herself no more. She was in great pain; kicked, swung her head about, tried to lick her left side, as if the pain was there; this went on all night. In the morning she began to foam at the mouth, and died soon after. Whole illness did not last for more than 12 hours. The cow had no milk fever. LEVI BOSLEY.

Glyndon, Md.

We are not at all sure that so-called milk fever was not the cause of death, seeing that she was attacked so soon after calving, and became paralyzed. At the same time it may have been septic metritis (inflammation of the womb). In future do not turn a cow out so soon after calving, and especially on such an unsuitable place as a weedy pasture. Take good care of her for at least ten days and such troubles will be scarce. Not being sure just what disease was present, we cannot, of course, say what would have been the best treatment in this case.

Puff.—I have a 2-year-old mule that has a soft enlargement in front of hind knee, about the size of a goose egg. Last March I noticed the whole knee joint very much swollen, but there was no lameness. The swelling went down to the size of a hen egg; recently it seems to be growing. The mule is large for his age, and was plowed some this summer. JOHN MCDOWELL.

Charlotte, N. C.

There is a small breach present in the bursa of the hock, and the puff is due to a leak of synovia (joint oil). Clip hair from part and rub three times a week with iodine ointment. If this does not cure in one month clip again and when skin is well enough, blister with ointment so often advised in this department of the P. F.

Indigestion.—I have a horse about 12 years old; he has been a good work horse and hearty feeder; feed 12 quarts of oats daily, with bran mash twice a week. Two months ago he started to groan when he would walk hitched to wagon; he seems to get worse and worse; not much when he trots or pulls hard. Now when he eats his oats he stops and humps up to swallow, and his oats get swimming with water before he gets through eating. JOHN MCHALE.

Darien, Conn.

A careful examination of the teeth should be made, as something must be the matter there, seeing that he has to hump up to swallow, and especially as there is such profuse salivation when eating. It is probable that one of his molar teeth is either diseased, long or split, so that it interferes with mastication and indigestion is the result. After having the teeth attended to, give him a pint dose of raw linseed oil and repeat this in a week. Do not feed hay at noon, and always allow drinking water before, but not after eating.

Lameness.—Will you kindly tell me what to do for my mare, being lame in her front feet? She is not lame all the time, but some days she will be worse than others. When standing, especially after a drive, she will put out her front feet and one of her hind feet, and simply stand on her toes. She has been this way for over a year. When we bought her, over a year ago, she never had a shoe on her foot. Do you think it has anything to do with the shoeing? I have at hand a stock book and it describes it as navicular disease. Could you prescribe anything to do for it? Also, when putting on the harness in the stable she grinds her teeth and snaps a little, but she has spells when she doesn't do either. Would you call it indigestion? L. R. M.

Fairview, Pa.

There is no symptom of navicular disease present, but we think it plain that there is soreness and some contraction of the tendons at the back of the legs from foot to knees and hocks. Shoe with heels but no toe calkins, after shortening toes. Clip hair from back tendons and blister with a mixture of two drachms of powdered cantharides and biniodide of mercury in two ounces of lard, as so often advised in this department of the P. F. The grinding of teeth, etc., when being harnessed, denotes either nervousness, viciousness or sore neck and shoulders.

Warts.—How can I get rid of warts on a yearling heifer's neck? Began with one wart; have rapidly spread until the warts cover several inches. Is on pasture. I have a young litter of pigs from registered Poland-Chinas; one has a growth like a tumor on forehead; was there at birth. The sow and pigs are in excellent condition, with this exception. Will antitoxin prevent hog cholera?

Boyds Creek, Tenn. GEO. H. MCNUTT.

1. Snip off warts having a narrow base, and touch bleeding wound with lunar caustic pencil. Wetting the masses daily with castor oil is often effective, and we have had good results from using Fowler's solution of arsenic in the same way. In bad cases we also give the latter medicine internally. 2. Tumor should be let alone, unless it starts to grow, in which case it should be dissected out. Rubbing it with a little iodine ointment once or twice a week might tend to keep it from growing. 3. We have had no personal experience with antitoxin for the prevention of hog cholera, but that made by the Government, after experimenting for many years, failed to prevent.

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THE GARDEN.

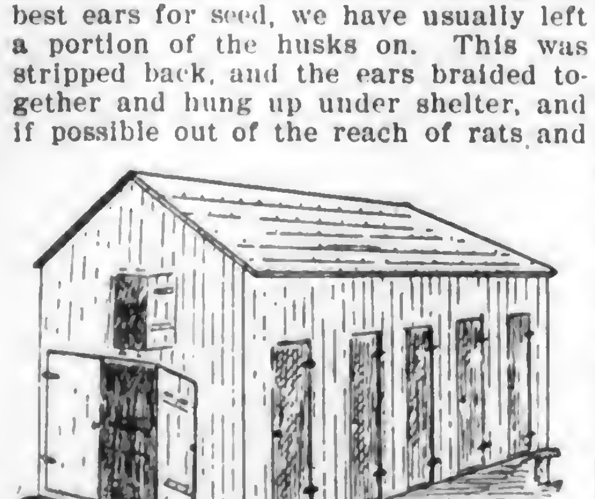
This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Celery Blight. — Not a sign of the celery leaf blights which in average seasons have given us so much trouble! The season has seemed unfavorable to its development; for surely our soil is well infected with it. Sometimes it has seemed uphill work to get rid of the disease by frequent spraying with weak copper sulphate solution, which thus far has been found the most effective fungicide for celery leaf diseases. I have sometimes made the solution strong enough to give to the water a decided blue tint; yet I have seldom seen any injury resulting from its free use on celery leaves. This year we had no need to spray, and the celery is perfectly healthy. This makes a big difference in the growth and size of plants.

Celery Plants Going to Seed.—I put out a number of celery plants that were started from seed as early as fore part of February, and gave different plats different treatment, feeding some with acid phosphate, some with nitrate of soda, some with muriate of potash, and with different combinations of the three. I desired to see whether these different ways of treatment would have any effect in promoting or retarding the tendency of early-grown celery plants to "bolt," or go to seed. The results are entirely negative. Not a plant in any plat has gone to seed. Apparently the season, being cool and wet, has been more favorable to vegetative growth than to seed production. Or it may be that there is a difference in different strains of seed of any celery variety. In fact, this appears to me very probable. If seed is carefully grown and selected, always from early started plants which show no inclination to go to seed the first season, the tendency to bolt may be very slight, even if seed was sown in early February.

Saving Sweet Corn for Seed.—There was a great scarcity of good sweet corn this spring. In some instances, $20 was paid per bushel for the common Stowell's Evergreen. This was an uncommon case. Yet we all know that good seed sweet corn, especially Stowell's Evergreen, seldom fails to be in good demand at paying prices in the spring. I always found it just as easy to grow a bushel of sweet corn as of ordinary field corn. It is a little harder to cure, that is all. When saving the best ears for seed, we have usually left a portion of the husks on. This was stripped back, and the ears braided together and hung up under shelter, and if possible out of the reach of rats and mice. In one of our exchanges I noticed a plan of a corn-curing house, similar to the one shown in the illustration. First of all, it should be made rat-proof. Rats will make horrible work of the sweet corn to which they have free access. Have doors at the sides, and bins of inch-mesh wire netting inside, so that the freshly husked ears may be placed inside the bins, not in great bulk either, and in drying days, have a good chance to catch the drying drafts from the open doors. There may also be a storage room overhead, with draft from front to rear. Seed sweet corn is usually profitable, and the erection of a drying shed may pay well.



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Current Comments.

Diseased Squash Vines. — Plowing Green Crops Under. — John T. Roraback, Kansas City, Mo.—"My Crookneck squashes are planted in the open where they are in the full blaze of the sun. The ground is a fine black earth fully pulverized, and which never becomes hard. It is over sod turned one foot deep a year ago, and consequently retains a considerable amount of moisture. Recently some of these squash vines, which are full grown and have begun to bear, have wilted down in one day, so that it was necessary to pull them up, and throw them away. I have been unable to find any insect in the holes which would injure the root and have split the main stem and leaf stems from end to end looking for borers or something of a similar nature, but have been unable to find anything the matter excepting a few leaf lice which would not be sufficient to cause the damage mentioned. Other vines close by them do not develop the same trouble. Can you advise me cause of the trouble with these particular vines? Will it do to turn under pea and bean vines this fall to rot for fertilizer, or would it be best not to do this on account of the green plants taking too much from the life of the soil?" The disease which destroyed the squash vine is, unfortunately, a very common one all over the country. We lose a large percentage of our cucumber, squash and melon vines by its attacks, and have not yet learned how to prevent it entirely. We believe that spraying with Bordeaux mixture is at least a partial protection, but we often see our vines succumb, often all at once, no matter how carefully we have thought that the spraying was done. Growing bean and pea vines and plowing them under is far from tending to "take the life out of the soil." In fact, it is often the very best means in the reach of the soil tiller to bring new life into the soil. By all means, if you have the opportunity, grow peas or beans (cow peas, soy beans, common field peas, vetches); let them make the largest possible growth, and then plow them under, or, possibly, let them rot on the ground. It will improve the soil wonderfully, and make it full of life.

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Bean Growing in Western New York.

C. J. W.

Beans have become one of the most profitable crops that can be raised in Western New York. The varieties usually grown are Pea beans, Mediums, Marrowfats and Red Kidneys. The Pea and Medium beans yield most, but bring less in the market. Sod ground is the best for beans and should be plowed as early in the spring as it is dry enough. Farmers commence in the spring to plow sod for beans and plow until the loose ground is dry enough to plow, and then plow that and sow it to oats or barley and then finish plowing bean ground. If the bean ground gets very dry, it should be rolled as fast as plowed and as soon as plowing is done, the ground should be dragged several times and thoroughly dragged just before planting. The beans are drilled with a bean or grain drill in rows 28 inches apart. Marrowfat and Red Kidney beans are planted from May 25th to June 20th, and Pea and Medium beans from June 1st to July 4th. After they come up and are large enough to cultivate, some farmers go over them with a weeder and then cultivate them several times until they are too large. The beans are harvested by a machine which has two long knives, each knife runs under a row of beans and cuts the roots and lifts them out of the ground, and they are gathered by a horse rake and pitched into piles. When the beans are dry they are drawn to the barn and threshed with a bean thresher. Marrow and Red Kidney beans yield from 15 to 25 bushels to the acre. Pea and Medium beans from 15 to 30 bushels to the acre. Marrow and Red Kidney bring from $1.50 to $2.25 per bushel; Pea and Medium beans from $1.50 to $2 per bushel. A large part of the bean ground is dragged a few times and sown to wheat and raises a fine crop very cheaply.

Wyoming Co., N. Y.

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Notes From a Carolina Garden.

The first sowing of lettuce seed has been made. For this sowing we used the Big Boston and the Wonderful. About the third week in September we intend to sow more of the Big Boston and some of the Grand Rapids for setting in the cold frames for winter. The Grand Rapids will be planted entirely for home use, for our markets in the eastern part of the country have not found out that the curled lettuces are of better quality than the cabbage sorts. They know better out West, and in the Mississippi Valley the cities buy the Grand Rapids and do not want the cabbage sorts. But Philadelphia, New York and Boston demand a headed lettuce, and, of course, the lettuce growers must grow what their market wants. But for our own table we greatly prefer the Grand Rapids in winter, and Maule's Improved Hanson in the spring, though the Wonderful is also a fine spring lettuce. We sow some of the Wonderful the last of August for heading in November and December, when we can head it without the glass. But in the frames in mid-winter we have found no heading lettuce equal to the Big Boston for market purposes, as its size sells it. Some of the smaller heading sorts are of better quality, but the market wants big things, and most people will buy a big Ben Davis apple rather than a little Lady apple, and will take a big Drumhead cabbage rather than a Savoy of smaller size at same price. I often wonder that city buyers know so little about quality in vegetables and fruits. We hope the readers of the P. F. will take our advice about sweet corn and try the Improved Giant another year for the main crop. We have never enjoyed sweet corn in our lives more than this summer, though we had a hard time getting it started. Our late crop of muskmelons, planted among the sweet corn, is coming on nicely and the melons are half grown. Of the early ones the Rocky Ford still seems to be the favorite, with Tait's New Model close behind. In quality there is little to choose between Rocky Ford and Jenny Lind, but the shape of the Rocky Ford is better, being rounder than the Jenny Lind. The wet weather has been against the late crop of tomatoes and the fruit is setting scantily, but we hope to have a good lot before frost comes, while the early ones are still giving us a supply.

In the flower garden the tea roses are making a fine growth for the fall bloom, which is always the finest colored in the year. From October to December they are usually splendid, and often we have bushes loaded with buds until frozen by the December frosts. Gladiolus bulbs are nearly ready to lift, and the crop promises to be large. We have saved a large lot of gladiolus seed and will sow them in February. Several years ago we grew some from seed that produced blooming corms the first season's growth. In growing the gladiolus from the offsets alone, one is apt to run into one color too much, for some bulbs make many more offsets than others and make the largest bulbs, and when we plant only the fine sized bulbs we are apt soon to have only one or two colors. It is found that the bulbs that make the fewest offsets make the most seed, and *vice versa*. So the growing from seed is an important thing in keeping up a variety of colors. We grow only the Groff hybrids, as we have found them much finer than the old Gandavensis. The corms are perfectly hardy here, but we lift them to save the offsets and to sort the bulbs. Every little bulblet left in the ground grows and we have gladiolus almost as weeds in our garden. Cannas we keep where they grow, as they winter better under a cover of the dead tops, and can be lifted and divided and replanted in the spring. Caladiums are often treated in the same way, and in the eastern part of the State we have seen bananas cut down and covered with sawdust and a hogshead turned over the heap, and in this way make magnificent clumps in the following summer. Our fences of chicken wire we are rapidly getting covered with Marechal Neil, climbing Clotilde Soupert and the Ramblers. In growth Marechal Neil beats the whole, and is magnificent in the spring, and gives also many fine fall flowers tinged at that season with pink. Sternbergias and Nerines have been planted nearly a month and will soon be throwing up their flowers to be followed by pretty foliage for the winter. Candidum lilies will now go in the ground, but the Bermuda lilies will not be planted until late October, as we do not want these to start in the fall.

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Everlasting Horse Collars. — An invention which is rapidly winning its way to public favor is the Howell Adjustable Steel Horse Collar, manufactured by the Howell & Spaulding Co., Caro, Mich. The first impression with many is that a steel collar is too unyielding to be comfortable on a horse, while the reverse is true, for the same reason that army saddles with their wood trees never gall the back of a horse. It is the most humane collar. A soft collar makes the flesh soft, the perspiration irritates it, a galled neck is the result, and a cure is impossible while working.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Wild Black Cherry.

Were it not for the litter caused by birds seeking the fruit of the wild black cherry, Cerasus serotina, I would recommend this tree to anyone looking for a tree to plant for shade. When young, and for many years thereafter, it gives ample shade, without giving too much of it. When near a dwelling the fruit and droppings from the birds make under the tree unsightly, but where this is not objectionable the tree may be set to good advantage. The fruit itself is astringent, and is well known as a useful tonic. Many old-time folks seed a quart or so of ripe berries every fall to place in whiskey for medicinal uses in the way of a tonic, which they claim to need in spring.

The value of the wood of this tree is greatly underrated, in the opinion of many persons acquainted with the wants of those looking for timber trees. The late Robert Douglas said of it that it was not only prized for its timber but also for its hardiness, as it would grow in the extreme Northwest where but few other timber trees would. The name of this cherry, wild black, suggests mentioning how confusing many common names are. In the cherry there are so many wild ones, and black at that, that wild black cherry has no particular significance to many persons. There is the choke cherry and the Mazzard cherry, both black; and near some of our large cities the English bird cherry is getting wild, and it, too, has black berries. But in the case of "wild black" the chief competitors are the common one of which I have written, Cerasus serotina, and the Mazzard, Cerasus vulgaris, the latter being the offspring of the sweet cherries of our gardens. Those intending to sow seeds of cherries should keep the stones damp from the time they are gathered until spring, sowing them as early as possible.

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Horticultural Queries.

Hardy Hydrangea.—Please answer this question through the P. F. How is the hydrangea flower stalk raised?

Seven Valleys, Pa. H. E. ZECH.

Presuming you mean the hardy hydrangea, which bears large heads of white flowers changing to pink, and which flowers in August and September, the shoots cut off in early spring and set in rows, just as you would currants, root very well. Or when the plant is growing in spring and the young shoots are long enough, bend them under ground—layer them, as it is termed—and these shoots will be rooted by fall. If you cut a little slit in the shoots before bending under ground it assists in the rooting. The layered shoot must have its top projecting above ground, of course.

Strawberries.—I have a small piece of land I wish to set to strawberries in October; the land is in melons at present, and the last time I cultivated them I sowed cow peas among the melons in order to get a green crop to turn under to build up the land and get it in proper tilth for strawberries, for the land is very thin. I want to turn the peas under in September and in October top dress the land with leached wood ashes, and I want your advice as to what time to turn those pea vines under in order for them to decay sufficiently to set the land to strawberries in October. The pea vines are at present very rank and are blooming, and young peas are beginning to set. Do you think it would be safe to turn those pea vines under in September and set the land to strawberries in October, or wait until spring about setting them?

Rutledge, Tenn. P. F. CORUM.

I do not think you need wait any set time for the setting of your plants after the plowing in of your cow peas. The strawberries will not take up any, or but little, food until spring, and by that time the decay of the vines will be complete. I would plow as soon as the melons are off, and set the strawberries as soon thereafter as you wish. In this vicinity, unless we set strawberries in August or early September, so that the plants will be rooted before winter comes, we prefer to wait until spring, but your climate is different from ours.

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Horticultural Notes.

City Trees.—But very few trees thrive in cities where houses are thickly clustered together. The common ailanthus does well, so does the paper mulberry, but both of these sucker if the roots are disturbed. There is a Japanese tree, called Gingko, which is gaining favor for this character of planting. In cool places horse chestnuts do very well, but not in hot ones.

Destroying Imperfect Fruit. — Care should be taken to destroy the apples, plums, peaches and other fruits that fall through the season, because of containing the larvæ of the curculio or other injurious insects. It is part of nature that these fruits should fall, to give the larva a chance to perfect itself. This fruit should be fed to hogs or burned up or destroyed in some way, to lessen the insects for the year to follow.

White Pine Timber is so scarce that on many a farm it would be a very profitable investment to set out groves or acres of trees. There will be money in acres of useful timber trees before a great while.

Ripening Winter Pears. — To ripen winter pears to best advantage, keep them in a cool place just above freezing—if damp, so much the better. A week or more before wanted place them in a blanket-lined box, covered over with the blanket, and bring them into a warm room. In this way they ripen to perfection.

Sudden Exposure to great light is injurious to plants grown in deep shade. In chopping down forest trees, smaller ones which have been overshadowed often suffer, especially when they are evergreens. Plants brought up from cellars in spring are notable examples of this, many of them being almost killed by the sudden transformation.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Cold Storage Eggs.—To keep eggs for winter on a larger scale—for commercial purposes—cold storage is the thing. Usually the cold storage houses store eggs only during the cooler part of the year, say from February until June. Eggs picked up during the hot months (July, August, September) are not to be relied upon, as in that time they soon get stale. If they could be taken perfectly fresh and stored at once, they would keep just as well as eggs stored in March or April. The very first condition for success in preserving eggs so that they will come out "as good as freshly-laid," is that eggs go in when perfectly fresh. Eggs that "go in" stale, will surely come out very stale, and possibly entirely spoiled for use. The German "ovarum," which has been mentioned and illustrated in these columns, is probably the very best egg tester, and most accurate. Yet much can be shown, in regard to the age of an egg, by the old method of "candling," especially if we use the modern light (electric, acetylene, or gasoline gas) in place of the ancient candle or oil lamp. If the interior of the egg is examined by letting the strong light shine directly through it, and "a perfect ball of rosy red is found floating in clear liquid in a clean shell," the egg is fresh. If there is a slight vacuum at one end, it is fresh enough for ordinary use, but not as fresh as the first one. For cake making and other culinary uses it may be even better than the strictly fresh egg. When the yolk sticks to the shell, the egg is stale and unfit for use, even if it should not yet smell strongly. According to the N. Y. Tribune, the temperature at commercial packing houses is kept at 30 degrees Fahr., by means of pipes through which brine circulates, exactly as steam circulates in modern houses. The secret of storing eggs successfully consists in keeping them at only two degrees below freezing point, in surroundings of spotless cleanliness, and in sorting those that have begun to be stale from those that are strictly fresh.

Feeding Capons. — Of all fowls, capons are just the ones that should be forced by heavy feeding from the day they are operated on to the time of slaughter. Their meat is worth 20 cents or more per pound, and the production of meat at this rate leaves to the producer a good big margin of profit. We quote from an exchange as follows: "Feeding capons is a very particular thing, if fed in a way to obtain good and profitable results, and to feed this way it means a great lot of hard and careful work. If your birds are caponized early, say in August or September, you should have them ready for market by January 20th, or not later than February 1st, and by so doing you get the benefit of the highest prices. Many farmers, as well as a few fanciers who caponize chickens, let them get their food the same as they do the rest of their flock. Now there is a waste of time and feed in letting your capons run at large. They should be penned the same as hogs and fed regularly, also watered the same. You will find corn alone is not the best feed for capons. I have found it very essential to give them a mixed feed of cooked vegetables, ground wheat or any other grain except corn for a morning feed, and at noon give them some cracked wheat and, if possible, green food of some kind. I find beef scraps are an excellent feed at noon and at night I always give them all the shelled corn they can eat, the more the better, as you will find that whole corn in the cold weather tends to give them heat while they are at the same time putting on considerable fat, more so than if at liberty to range on the whole farm. The closer you keep your capons yarded the quicker you will get them fattened. Never sell your capons till you have them good and fat, as it is a loss to you, not to the buyer; for the care and feed you give them will be of great value and if sold poor they will not pay for the feed given, therefore it is best to have them in good condition. The average weight of a thoroughbred Barred Plymouth Rock capon when fat is 11½ pounds. I have had them at this weight and know what I am talking about. A bird well fattened will always find a good market."

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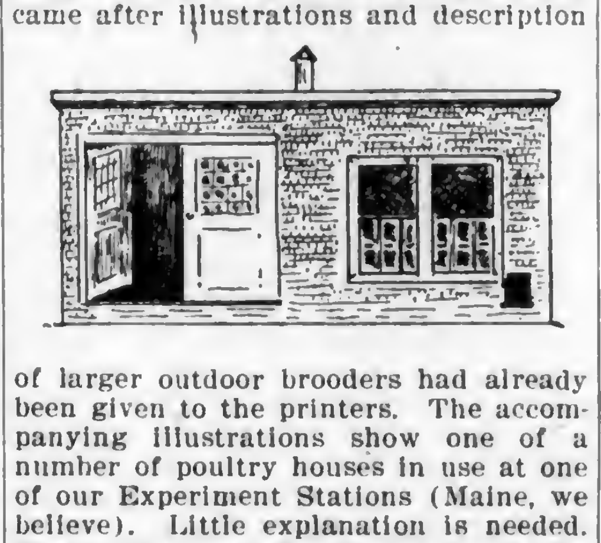
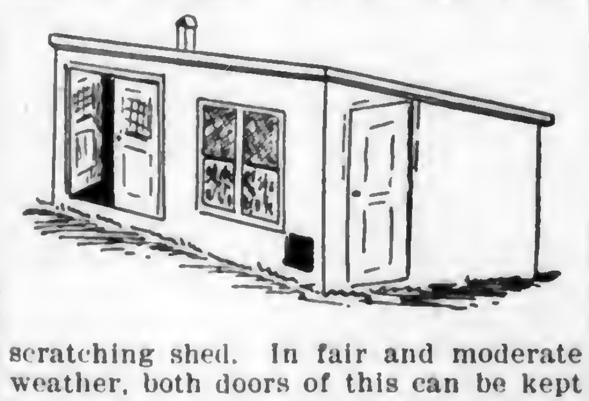
Queries Answered.

Plan of Poultry House. — Beatrice Turner, a reader in Napa Co., Cal., asks for the republication of plans of poultry houses given some time ago, and for information concerning ventilation. Her request for plans of home-made brooder came after illustrations and description of larger outdoor brooders had already been given to the printers. The accompanying illustrations show one of a number of poultry houses in use at one of our Experiment Stations (Maine, we believe). Little explanation is needed. The ventilator shaft, which is inside the main part, reaches clear down to the floor and takes the impure air from near the bottom. At the left is the scratching shed. In fair and moderate weather, both doors of this can be kept open. During the warmer parts of the year the windows are kept more or less open, but guarded by means of poultry netting. The size of the building may be varied in accordance with the number of birds the building is to accommodate. We would consider 50 the extreme limit for one house to flock.





Green Bone Mill.—Mrs. R. C. Rector, Salisbury, Md.—"I am thinking of buying a bone mill. The catalogues very strongly recommend Mann's green bone cutter. We would like to know whether this is a good machine before buying. Our chicken record is as follows: On January 1st we had 38 hens and one rooster. By May 12th we had 375 little chicks hatched. I raised something over 300 of them, but they did not grow as fast as I think they should, and believe it is due to insufficient animal food. Most of the cockerels have been marketed. We propose to keep all pullets for layers this winter. The little chicks had free range until a few days ago, when they began picking the ripening tomatoes; so we had to confine them in their yards. We will have between 150 and 200 hens and pullets to keep over. We can get green bone at the butcher's at a penny a pound. The mites got the start of us once, and we had a terrible fight; but I think we have them pretty well killed out now." No doubt the Mann bone cutter is a good and serviceable machine. We are not quite so sure that it is safe for you, with apparently little experience, to keep so many hens unless you can divide them in smaller flocks, each flock to be kept by itself and with a fair amount of room or range. It might do to keep so many together in one large building, and on unlimited range. We have a Mann bone cutter, and use it during winter when we have plenty of time and can get bones more easily than in the summertime. You can afford to pay a penny a pound for green bones, and if you feed the cut bone freely, good results may be expected, not only in growth of chicks, but also in eggs when the pullets have reached laying age. By all means get the machine large enough. If chicks did not grow as fast as could reasonably be expected the fault (if not in lice or mites) was certainly in feeding. A hundred chicks can eat a great deal, as they seem always hungry. Possibly you may have given too much corn or other carbonaceous foods. The addition of green bone would help matters very decidedly. In the absence of green bone, or when we think the price of bones too high, we may find a good substitute in meat meal or animal meal, such, for instance, as the Boiled Beef and Bone advertised (at $2.25 per 100 pounds) in our advertising columns. We find such meat meal almost indispensable.

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Pointed Poultry Paragraphs.

No Let-up on lice, or on mites, either!

With one Breed Only, we can get all birds of the same age ready for market at the same time.

Course Wheat Bran is about as good material to pack eggs for hatching in as anything usually in the reach of farmers. Just wrap each egg separately in a piece of newspaper, or any other soft paper, and pack them together in the box or basket, upon a layer of bran. Fill the spaces with bran, and cover an inch or two on top. Then, if desired, put another layer of eggs on the bran, and finally cover well with the bran.

Whose Fun? — The New York Sun is credited with the following classic poetry:

"The hens are in the garden,
It makes me smile with glee.
It's Johnson's garden they are in
And the hens belong to me."

To which we make this addition:

One morning in the garden
Came Johnson with his gun;
The hens belonged to Johnson,
To grief had turned my fun.

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Monarch Feed Mills.—With this issue the season's advertising of the familiar Monarch French Burr and Attrition Feed Mills starts. Old readers remember the advertisements from past seasons. These mills have found their way into the feed barns of many who read this paper. If there had been any note of dissatisfaction we should be sure to know it. These Monarch mills are admirably adapted to the feeder's purposes. We have no hesitation in recommending them unreservedly. But an intending buyer need not buy on faith. Note the liberal time given to try before consummating the purchase. It shows the serene confidence the manufacturers have in their product. Catalogue with full description can be obtained by writing the manufacturers, Sprout, Waldron & Co., Box 224, Muncy, Pa., mentioning the P. F.

AN EGG MAKER
Nothing equals green cut bone for hens. Any one can cut it with
Mann's Latest Model Bone Cutter.
Open hopper. Automatic feed. 10 Days' Free Trial. No pay until you're satisfied. If you don't like it, return at our expense. Isn't this better for you than to pay for a machine you never tried? Cat'g free. F. W. MANN CO., Box 14, Milford, Mass.

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Famous all over the world. 1903 Great Catalogue No. 98 Free.
Cyphers Incubator Co., Buffalo, N. Y.

Death to Lice on hens and chickens. 84 page Book Free. D. J. LAMBERT, Box 312, Apponaug, R. I.

POULTRY Hay, straw, fruits and produce sold on commission. Prompt returns. Careful personal attention to every shipt. Est'd 59 yrs. GIBBS & BRO., Com'n Merchants, PHILA., PA.

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from Standard bred White Wyandottes, White Rocks, Barred Rocks, S. C. Brown Leghorns, B. B. Red Games, C. I. Games, Bronze Turkeys, Pekin Ducks. Hen eggs, $2.00 per 13; turkey eggs, $2.00 per 9; duck eggs, $2.00 per 11. 10 females, 1 male, Lt. Brahmas; fine birds at a bargain. Eggs carefully packed. Satisfaction guaranteed.
Spring Park Farm, R. R. No. 2, Antioch, Tenn.

M. S. S. POULTRY FENCING
is stronger, better and cheaper than old style netting. Everyone is pleased with it.

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is superior to all others in strength, closeness of mesh, adjustability and economy. Will fit uneven ground without cutting. Every part stretches perfectly; has fine mesh at bottom for small chicks.

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The Practical Farmer.
FOUNDED IN 1855
Published Weekly by The Farmer Co.
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Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, September 26, 1903

Make a Reputation for Your Products.

Nearly all the apples on the market have no one's name on the barrels, and it is well for a great many of them that there is no name on them, for no one would care to be responsible for the contents of many barrels we see, which are topped off at the ends with good apples and stuffed with trash in the middle. If the grower and packer had put his name on these barrels it would have simply answered a good purpose to prevent anyone from buying them a second time. But these dishonest packers never put their names on the barrels, but generally a mere pencil scrawl of the name of variety supposed to be inside. Passing a fruit stand recently we were attracted by the appearance of a barrel of apples, which were so fine that at first we hardly recognized them as Baldwins, they were so much better than the general stock of Baldwins. Not a bruised nor a specked apple could we find in the barrel and no signs of scab were on them, as is generally the case, this season especially. This showed that the grower was a wide-awake man and sprays his trees carefully. I was, therefore, not surprised to find on the heading taken from the barrel neatly stencilled: "Grown and packed by ———, Niagara Co., N. Y." The grower of those apples had no reason to be ashamed of them. On the contrary, he took pride in his product and wanted all the world to know that he raised and packed them. We were not surprised to learn from the dealer that this brand of apples commanded an extra price in the market. "I always try to get that man's apples," said he; "I always know just what they are, and that there will be no loss on them, and that the top layer represents the barrel all the way through." Why is it that fruit growers and farmers in general will not learn the lesson of this man's practice? Most of them throw their apples on the market and they sell as common Baldwins, or whatever they may be, while the man who grows a fine apple and packs them honestly gains a reputation, so that dealers only want to know the brand and do not trouble to open the barrel before offering an extra price. It is easy for anyone to get a reputation for his products if he always grows good ones and then never lets the package go without his name and address. His products advertise themselves and bring him more money than poorly grown and dishonestly packed products.

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Keeping Sweet Potatoes.

A number of readers have asked us to repeat in the P. F. the method of constructing a building for the keeping of sweet potatoes, and the treatment they need for their preservation in winter. We gave the following plans to a farmer in the lower part of South Carolina some years ago, and meeting him the following August at a farmers' gathering at Clemson College, he said: "That potato house has been a wonderful success, and now, in August, I have so many potatoes that I am feeding last year's crop to pigs when the new crop is on hand." The principles on which the keeping of sweet potatoes depends are, first, the digging of the potatoes when the soil is comparatively dry, and the handling of them as carefully as eggs. Never allow them to be thrown in heaps and bruised, but let them lie along the rows and get a good sunning during the day, for the sweet potato is benefited by the sunning which injures the Irish potato. Gather for storing in baskets or boxes, and never dump them into a wagon body. When stored, the first thing is to give a high temperature for a few days until the potatoes are thoroughly dried off from the sweat that they will always go through. After that, if they are never allowed to get colder in winter than 40 to 50 degrees, there will be no difficulty in keeping them. No cut or bruised potatoes should be stored. Put these aside for immediate use. To build a house, make it of a size in proportion to the amount to be stored, of course. A width of ten to fifteen feet is best, and the length according to the needed capacity. The walls should be made double and well packed with sawdust. Make a span-roof and ceil the room overhead, forming a loft above, which should be packed with straw. Through the ceiling have a ventilator above the roof that can be opened or closed. On each side of a central passage build slatted shelves so that the potatoes can be stored shallowly and be convenient for overhauling. We have seen a house in Georgia where they were stored in a general heap and kept successfully, but we greatly prefer the shelving. Now for heating apparatus the best is a brick furnace at one end, with a large sheet-iron flue passing overhead through the house. In the Georgia house referred to the heating is done by four oil stoves set in the four corners, but in a colder climate the furnace and flue is best. After the potatoes are stored start a heat and raise the temperature for several days, up to about 90 degrees, until the potatoes are dried off. After that try to keep the temperature not higher than 45 to 50 degrees at night, and often in mild weather it will be necessary to open the ventilator.

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The True Use of Fertilizers.

Mr. Stockwell, of Indiana, has told well, on page 130-131, how he learned the use of commercial fertilizers in the improvement of his soil. Recently at a Farmers' Institute we heard a speaker tell the farmers that the sole purpose of fertilizers was to make a crop, and that it would never pay to use them as a means for the improvement of the land. In many parts of the country farmers have been proceeding on this idea for a generation. This has been particularly the case in the South, and the result is seen in wasted soils, galled and gullied hillsides, poverty in the land and with the farmer, while the fertilizer manufacturers have waxed rich. The Stations tell the farmers of the manurial needs of various crops, and what every crop needs to have added to the soil in order to make a crop, until the farmers have come to the conclusion that all they need is a formula for a fertilizer for every crop planted. It is time now to say more about the use of fertilizers in the building up of the soil and its permanent increase in productiveness while using less and less of the commercial fertilizers. It is true that the various crops need about the percentages of plant food that the Stations have determined, but it is not true that the farmer need buy the complete mixture for every crop planted. The soil will never be improved by merely adding annually what each crop needs in the shape of a complete fertilizer. We need to put greater stress, as Mr. Terry does in a late number, on the thorough preparation of the soil. Our soils have wasted more through bad tillage than a lack of plant food in them. Most of the clay soils especially, need good tillage more than they need commercial fertilizers, and thousands of farmers are annually spending money for fertilizers which they need not buy if they farmed right. The putting on annually of what fertilizer we think that particular crop may take up, and depending on the fertilizer to make a sale crop, will inevitably lead to the exhaustion of the soil and a need for more and more fertilizer to produce the same results. We do not mean that the farmer should endeavor to improve his soil by applying more than any particular crop needs, so as to have a residue left in the soil for another crop. It may pay at times to even do this, as, for example, leaving something from the wheat crop to aid the clover. But the keynote of real farming is to make crops at the least cost while building up the productiveness of the soil at the same time. The application of fertilizers to every crop grown may show an apparent profit, but in the long run the condition of the soil will tell of the extravagance, and the profit will not be such as could be had through a proper rotation and the use of only such fertilizing materials as our soil may need, and which we cannot get without an artificial application. A crop may be shown to need a certain proportion of phosphoric acid, nitrogen and potash. But if we can get the nitrogen by a good rotation with legumes, why buy it, when we are at the same time getting the most valuable of stock food in the getting of the nitrogen, and are thus adding to the humus-making material on the farm in the manure. Why should we, then, buy a complete fertilizer merely to get a sale crop, when we can get the nitrogen and make a profit in getting it? Then when we find that we can in such a rotation get the use of the potash that is plentiful in most of our clay soils, through the use of an occasional dressing of lime, why should we buy potash? Of course, there are sandy soils and black muck soils all over the country which are deficient in potash, and for these we must buy it. But on a large part of our upland clay soils we can get the use of the abundant supplies of potash existing in them through the use of lime and plaster. You will never get it by means of the complete fertilizer applied for the sole purpose of getting a crop to sell off the farm.

The fact is that the farmers on some of our best wheat lands in Maryland have vastly increased the crops of wheat while using no fertilizer except acid phosphate on the wheat crop. An old friend in Eastern Maryland and a successful farmer, Mr. Samuel T. Earle, of Queen Anne county, wrote to us that he has not used anything but acid phosphate for a number of years, and that he averages 40 bushels of wheat per acre with intensive culture of the land. Now, in a three-year rotation of corn, wheat and clover, just such a cropping as this is practicable, and the place for the acid phosphate is on the clover, for if we feed the crop that feeds the stock and the land at the same time, and thus increase its power to get nitrogen from the air, and its capacity to furnish feed for the stock, the clover will do all that we need for the wheat, and in this way the cheap fertilizer we buy will tend directly to improvement of the soil and increasing crops at a smaller cost than the buying of a complete fertilizer for the purpose, the cost of which must come out of the crop. The application of fertilizers in a lavish way for the production of crops has an attraction to the inexperienced farmer who looks at the temporary results only, but the wise farmer sees through these illusory profits the exhaustion of the future, the old fields, and the poverty-stricken farmer whose gains have gone annually to this gambling sort of farming. Use fertilizers, then, with the distinct purpose ahead that through them you will finally get into a shape where you will need less of them, and that, on a clay soil, only phosphoric acid.

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The Cream of the Bulletins.

U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 169. Experiment Station Work XXII. By A. C. True, Director.

This is the twenty-second number of the brief extracts from Station bulletins published by the Office of Experiment Stations of the Department of Agriculture at Washington. These special bulletins bring within the reach of farmers in all parts of the country items of importance investigated by the Stations, since the State bulletins themselves are often unavailable to parties in other States, while the farmers' bulletins of the Department of Agriculture will be sent to all asking the Secretary of Agriculture for them. By getting the full series of these digests of bulletins farmers in all parts of the country can keep posted on matters published by the Stations which are of practical importance to them. The present bulletin takes up first the matter of pure water for cows. The prevalence of typhoid fever from impure water is a matter of the most vital importance in all parts of the country, and while the water used by the cows may not affect the milk, it is shown that cows standing in pools of stagnant water in which the germs of typhoid may exist will get them on their udders and thence into the milk. But it is also shown that the germs come more frequently from the vessels being washed in contaminated water. This is used to emphasize the importance of steam in cleaning the milk vessels and thus sterilizing them. When to cut forage crops is next taken up. It has been shown at the Nebraska Station that cutting forage crops of various kinds in an immature state decreases the protein content, and a table is given of the analyses of various crops cut at different stages. This is well worth study. At the Arizona Station experiments have been made with a tropical plant, Lippia nodiflora, or "fog fruit," as a plant for lawns in arid regions and as a soil binder. It resists drought to a remarkable degree, and though of no value as a forage plant, will prove valuable as a lawn plant and soil binder in arid regions. The Maryland Station has experimented with celery seed from various sources, and finds that the French grown seed is far superior in producing solid stalks to the American seed. It is not admitted that fine celery seed cannot be grown in America, but that the French seed is better bred, and American growers are urged to select the better seed. The irrigation of strawberries is fully discussed in extracts from various Stations, and a cut is given of an irrigating device, which is fully described. There is no plant grown in which irrigation, where it can be done economically, will pay better than with the strawberry. A plan for a farm garden is given from the Illinois Station bulletin, which is very suggestive. Improving and cultivating orchards is a chapter condensed from the bulletins of the Rhode Island, Missouri and North Dakota Stations, and gives the results of experiments there. Cultivation is better than neglect, but what method is best in all cases is still an open question. Several chapters, with fine illustrations, are devoted to tropical fruits, and these contain a great deal of information even to those who cannot grow these things. The cultivation of China asters is discussed in bulletins from Cornell and Massachusetts, and the items in regard to their cultivation will be very useful to the ladies and others fond of these flowers. The South Carolina Station tells about experiments in the evaporation and preservation of sweet potatoes. The method is easily adopted and should be very useful. The food value of beans is fully discussed from the bulletin of the Minnesota Station, and it is shown that the practice of using pork with beans is founded on real need, since the beans are deficient in fat and the pork balances the ration. The value of tankage as a food for pigs is discussed in extracts from bulletins of Indiana and Iowa Stations, and the value of the feed is demonstrated. Various remedies for fleas are suggested, such as pyrethrum powder, creolin and fumigation with carbon bisulphide. We notice these matters briefly, since anyone interested in any particular matter can get the bulletin on application to the Secretary of Agriculture, Washington, D. C.

Our Business Corner

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Special Advertising Representative
S. E. Leith, New York.

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CONTENTS

AGRICULTURAL.—How to Build Common and Swinging Stanchions.—Rye a Valuable Crop, but Makes Poor Hay.—Health Hints.—Let the Home Life be Harmonious. 193
Straight Rail Fences and Double Gates.—Effects of Intense Cultivation.—Cow Peas in Maryland.—Fencing in Central Maryland. 194
QUERIES.—Crimson Clover on Tobacco Land.—Cover Crop in Oregon.—Grasses in California.—Mildew on Melons and Cucumbers.—Lime, Sulphur and Salt Mixture. 195
LIVE STOCK AND DAIRY. — Grazing Crops for Hogs.—Part 1. 196
Tuberculosis. 197
VETERINARY. — Osteo-porosis. — A Dummy.—Death of Cow.—Puff.—Indigestion.—Lameness.—Warts. 197
GARDEN.—Talks on Timely Topics.—Celery Blight.—Celery Plants Going to Seed.—Saving Sweet Corn for Seed. — Current Comments. — Diseased Squash Vines.—Plowing Green Crops Under. — Bean Growing in Western New York.—Notes from a Carolina Garden. 198
HORTICULTURAL.—The Wild Black Cherry. — Horticultural Queries.—Hardy Hydrangea.—Strawberries.—Horticultural Notes. 199
POULTRY. — Seasonable Suggestions.—Cold Storage Eggs.—Feeding Capons.—Queries Answered.—Plan of Poultry House.—Green Bone Mill.—Pointed Poultry Paragraphs. 199
EDITORIAL.—Make a Reputation for Your Products. — Keeping Sweet Potatoes.—The True Use of Fertilizers. 200
CREAM OF THE BULLETINS. 200
COMMERCIAL. 201
HOME CIRCLE. — All in a Lifetime; Part 12.—In the Kitchen.—Nursing. 202
Stray Notes from Engleside.—Along the Lines.—How to Remove Ink from Mahogany.—Hints and Helps in Drawing.—Youth's Parliament. 203
OUR EXPERIENCE POOL.—Topic No. 591.—How do You Get Rid of or Prevent Broom Sedge in Pastures? 204
FARM IMPLEMENT ANNEX.—My Cultivator.—Making a Plank Stone Boat.—Separator Turned Hard.—My New Seed Drill and Wheel Hoe.—Cream Separating Can. — Simple Hand Weeder.—Saw Horse for One Man. 205
MISTAKES, FAILURES AND SUCCESSES.—Feeding for Winter Eggs.—Feeding Young Chicks.—Fine Potatoes. — Clover. — 80 Acres with Debt or 40 Without?—Those Potato Bugs.—Mistake in Saving Seed Corn.—Fond of Fried Chicken.—Green Wood Again.—To Keep the Hands Smooth. — Ink Powder.—Bracing Forked Trees. — Raising Rape Seed. — Harrowing Grain Fields.—The Bloody Globule.—To Clean Lamp Burners.—Ready-to-Use Cloths.—Cabbage Lice. 206
POSTAL CARD CORRESPONDENCE. 208

Exchange and Profit

If our friends will look around them, over the farm and house, they will doubtless discover a good many things they do not want, but which other people do. Why not offer them for exchange through the Barter Column of the P. F.? If you want help, or want to hire out, or sell your farm, or exchange anything you don't want for something you do want, then an ad. in our

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would probably accomplish your purpose. The charge is only one cent per word each publication, less than the cost of composition, no ads. of less than 25 words or more than 10 lines being admitted, and only when sent by a P. F. subscriber.

THE FARMER CO.,
Market & 18th Sts., Philadelphia.

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

September 19, 1903.

Notwithstanding several sensational features in the commercial world during the week—the fluctuations in cotton, the drop in prices of pig iron, the alarm in the dry goods trade over closed mills and the scarcity of many staple fabrics right at the commencement of the fall and winter trade—there appear no visible effects upon the produce market, and only slight changes in quotations since last report. These affect corn and oats, which are higher; the same of eggs, cheese, green fruits, feed and hay.

Unfavorable crop reports from the West and South resulted in uncertainty as to the future values of wheat, corn and cotton. In the Western corn belt severe cold weather following heavy rains has caused great loss, but to what extent may not be known for some time. Damage is also reported to the new crop of cotton from rains and hurricanes in the South and Southwest. The closing prices for wheat are the same this week as last, with firm market. Only a moderate demand for corn for export, and light local inquiry. Desirable grades of oats were in fair demand and the price ruled 1½c. higher than last week. Live poultry was active and the demand firm for choice heavy stock, with a shade better rates. Chickens in plenty and price stationary. Ducks were in small supply and the demand about equalized the offerings. Dressed poultry was firm, with prices unchanged, roasting and broiling sizes being most in demand. Predicted betterment in prices for Western creamery butter was offset by the large supply of nearby prints, which commanded ready sale. Extra creamery was held firmly at 20½c. Imperfect consignments were cleared out much under ruling prices for unquestioned grades. Storage warehouses continued to be drawn upon for eggs to meet daily demands. The market was strong for best grades, as receipts of fine fresh eggs were light. Nearby stock brought 24c. Apples are plentiful and demand moderate. Watermelons and cantaloupes are in abundant supply with consequent tumble in prices—Rocky Ford being quoted at half the price of two weeks back. Peaches, pears and grapes hold steady. The present supply of peaches is from the Western States and the orchards in the mountains of the Middle Southern States. White and sweet potatoes, tomatoes, peas, etc., are in plentiful supply and at slightly lower prices.

WHEAT.—

No. 2, red, spot and Sept.	82¾ @ 83
No. 2, Penna. and Del.	84¾ @ 85
No. 3, red	77¾ @ 78

CORN.—

No. 2, spot and Sept.	56 @ 56½
No. 2, yellow, track	61
No. 3	52 @ 52½

OATS.—

No. 2, white natural, new	43
No. 2, white clipped	43¾

LIVE POULTRY.—

Fowls, hens, per lb.	14 @ 14½
Roosters, per lb.	9½ @ 10
Spring chickens, per lb.	13½ @ 14½
Spring ducks, per lb.	12
Old ducks, per lb.	11 @ 12

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	13½
Fowls, average, per lb.	12½ @ 13
Old roosters, per lb.	9
Broilers, nearby	14 @ 16

BUTTER.—

West. cream'y, 1sts to extra	20 @ 20½
Ladle packed	15
Prints, nearby, 1sts to extra	20 @ 21
Prints, West., 1sts to extra	18 @ 20

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	24
Western 1sts, free cases, L	23 @ 23½
No. West., 1sts, free cases, L	23½ @ 24
So. West., 1sts, free cases, L	21½ @ 22
So. choice, free cases, L	20 @ 20½

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c. —	
Choice and fancy	11¾ @ 11½
Fair to good	10¾
State, part skims, prime	8 @ 9
Domestic Swiss, No. 1 new	13 @ 13½

GREEN FRUITS.—

Plums, N. Y., 8-lb. basket	
Prune	20 @ 25
Damson	25 @ 30
Reine Claude	22 @ 25
Green Gage	20 @ 23
Peaches, Mich., per bu. bas.	2.00 @ 2.50
N. Y., per 2-bas. crate	1.25 @ 2.00
Grapes—Del. & Md.—	
Concord & Moore's E'y, car	50 @ 60
N. Y. Moore's Early, car.	60 @ 75
Nearby, 8-lb. basket	15 @ 18
Watermelons, So., car.	75.00 @ 100.00
Cantaloupes—	
Jersey, per ½-bu. bas.	15 @ 50
Col. Rocky Ford, crate	1.25 @ 2.00
Cranberries—	
Cape Cod, early Bl., bbl.	6.50 @ 7.00
Cape Cod, early Bl., crate	2.00 @ 2.50

APPLES AND PEARS.—

Apples, per bbl.	2.00 @ 2.50
Per basket	25 @ 75
Pears, N. Y. Bartlett, bbl.	3.75 @ 4.50
Clapp's Favorite, per bbl.	2.50 @ 3.00
Seckel, per bbl.	3.75 @ 4.50
Other varieties, per bbl.	2.00 @ 3.00

POTATOES.—

Jersey, prime, per bas.	30
Sweets, Va., per., yellow, bbl.	2.00 @ 2.25
Sweets, Jersey, ¾-bu. bas.	60 @ 75

BEANS AND PEAS.—

Beans, marrows, H. P., bu	2.85 @ 2.90
Pea Beans, H. P., 1902, bu.	2.25
Green peas, per bu.	1.50
Scotch peas, per bu.	1.55

COTTON.—

Cotton, per cwt.	11.75

FEED.—

Bran, bulk, winter, per ton	18.75 @ 19.50
Bran, sacked, spring	19.00 @ 19.50

HAY AND STRAW.—

Timothy, new, No. 1	15.50 @ 16.00
Timothy, new, No. 2, small	14.00 @ 14.50
Timothy, mixed, new	14.00
Straw, new, straight rye	17.00 @ 17.50
Oat	8.50 @ 9.00
Wheat	8.00 @ 8.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2034 Market Street.

Beef cattle steady.

Extra steers	5½ @ 5¾
Good steers	5 @ 5¼
Medium steers	4½ @ 4¾
Common steers	4 @ 4¼

Veal calves active for best grades.

Extra calves	8 @ 8¼
Fair to good	6½ @ 7½
Poor and common	5 @ 6
Grassers	3 @ 4

Hogs active.

Fat hogs, Pa., Del. & Md.	6¼ @ 8
Fat hogs, Western	8¼ @ 8¾

Sheep and lambs active for good grades.

Sheep, extra	4¼ @ 4½
Sheep, good	3¾ @ 4
Sheep, medium	3 @ 3½
Sheep, common	2 @ 2¾
Lambs	4 @ 6½

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NEW YORK MARKET REVIEW.

September 19, 1903.

Receipts of butter for the past fortnight have been very heavy, especially in the last week, amounting to about 53,000 packages, but in spite of this, and a small export trade, the tone of the market has improved, and fresh table grades of butter are easily cleaned up. As a rule, the new butter runs good in quality, and only a little has shown heat defects. The dairy butter is also improving in quality, and a good deal of that and creamery are going into storage. With very best creamery at 19 to 21c. a pound, there is money in storing it for later trade. Cheese also jumped up in receipts to some 43,000 boxes. Exporters took over 8,000 boxes for the week. There have been heavy receipts of live poultry in the past week, owing to the Jewish holiday. The best selling live poultry at present are old roosters, turkeys and prime ducks and geese. Fancy large spring chickens, suitable for roasting, and fancy small broilers have been scarce all along, and there is a good demand for them. Fancy spring turkeys are selling at a premium. Spring ducks are plentiful, and only in moderate demand. Spring geese are dull; tame squabs steady and a trifle higher. The proportion of fine fresh eggs continues small, and the market demand is very firm for all such; but undergrades are weak and irregular. Refrigerators are firm and active, with stocks on hand not great. The best nearby fresh eggs are now worth 25 to 27c. per dozen. Conflicting news regarding crop conditions here and abroad continue to unsettle prices, and give speculators the opportunity to play with futures. Export demand continues a trifle less than ordinary. Farmers are offering corn freely. Oats are firm and steady, but the market is affected more or less by corn and wheat. Hay has fallen off in cost, and the heavy arrivals have shut off any fear of a famine; 90c. is the best that can be obtained for prime stock. Best long rye straw is selling at 10c. per cwt. above prime hay. There has been a steady outlet for white potatoes, and they close moderately active. Onions are in excessive supply and weak under declining prices. Sweet potatoes are steady, and cabbages plenty and low. Apples and pears have been arriving in large quantities, but fancy are still firm and in general demand. Peaches are neither plentiful nor good, but there is a good market for all desirable fruit at fancy prices. Grapes have overburdened the market, but fancy are now cleaning up better, and show general improvement. The market for hops has shown increasing improvement, and prices are steady and high.

The scarcity of cotton for immediate use has resulted in closing many mills throughout the country and the throwing out of employment of thousands of operatives. The daily consumption of cotton is enormous. One of the largest mills requires 80 bales to load its spindles. The closing of the mills has depleted manufactured stocks, and many articles of staple necessity have become exhausted. People call for them in the stores as they have always done, but cannot get them. Since September 1st the orders for table nuts have caused a great advance in the price of pecans, almonds and walnuts, the demand being heaviest from the West. Confectioners are large buyers for the manufacture of candy, and the sales by family grocers are continually growing. Pecans are at fancy prices. Large shipments of Tarragona, Valencia and Jordan almonds, Grenoble walnuts, etc., are on the water and due to arrive this week. It is believed this increase in consumption of domestic and imported nuts will stimulate their cultivation in this country. Pecans can be easily raised in the Middle and Southern States. The destruction of the banana plantations in Jamaica has had but little effect on the usual supply in this city. Acting under orders from the Board of Health a cargo of 10,000 bunches was condemned recently as unfit for use, and ordered destroyed. Officers of the Cranberry Growers' Association have figured that this year's crop will be over eight hundred thousand bushels, of which New England and Long Island will pick 400,000 bushels, New Jersey 350,000, and Western States 100,000 bushels. Massachusetts and Pennsylvania have laws regulating the capacity of cranberry barrels at one hundred quarts.

G. E. W.

WHEAT.—

No. 2, red	87⅞
No. 1, No. Duluth, new, f.o.b.	95⅞

CORN.—

No. 2	60
No. 2, f. o. b.	59¾

OATS.—

Standard, white	42½
No. 2, mixed	42¼
No. 2, white clipped	43¼ @ 43¾

HAY AND STRAW.—

Timothy, per., l'rg bales, cwt.	90
Timothy, No. 1	85 @ 87½
Timothy, No. 2	80 @ 82½
Straw, long rye, per cwt.	75 @ 1.00

BUTTER.—

Creamery—	
Firsts to extras	20½
State dairy, tubs—	
Firsts	15 @ 19
Western Factory—	
Firsts, current make	15½

CHEESE.—

State, f. c., small, fancy	11¼
Good to prime	10¼ @ 10¾
Large colored, fancy	11
Large white, fancy	10⅞

EGGS.—

QUOTATIONS AT MARK.

Nearby, f'cy, selected, white	25 @ 27
Mixed lots	24
State and Pa., f. g., extras	24
Seconds to firsts	19 @ 21

LIVE POULTRY.—

Spring chickens, nearby, lb.	13½
Southern, per lb.	13
Fowls, per lb.	13½
Roosters, per lb.	9
Turkeys, per lb.	13
Ducks, West., per pair	60 @ 75

DRESSED POULTRY.—

Turkeys, spring, d. p., lb.	15 @ 20
Scalded, per lb.	12 @ 15
Old, mixed, per lb.	14 @ 16
Broilers—	
Phila., fancy, large, lb.	20 @ 21
Phila., mixed sizes, per lb.	17 @ 18
Fowls—	
Ohio & Mich., scalded, lb.	14
West., d. p., av. best, lb.	14
Scalded, av. best, per lb.	12½

APPLES AND PEARS.—

20-ounce Pippin, per bbl.	1.75 @ 2.75
Crab, per bbl.	2.00 @ 5.00
Fall Pippin, per bbl.	1.50 @ 2.00
Greening, per bbl.	1.25 @ 1.75
Baldwin, per bbl.	1.50 @ 1.75
Pears—	
Kieffer, per bbl.	1.50 @ 2.00
Clapp's Favorite, per bbl.	2.50 @ 3.50
Bartlett, State, per bbl.	3.00 @ 5.00
Seckel, per bbl.	3.00 @ 4.50
Cranberries—	
Cape Cod, bbls.	6.00 @ 6.50
Per crate	2.00 @ 2.25
Pineapples—	
Fla., Red Spanish, crate	2.75 @ 3.00
Havana, Red Span., crate	1.40 @ 2.50
Grapes—	
Up-river, car., Delaware	60 @ 90
Up-river, carrier, Niagara	60 @ 75
Worden, per case	40 @ 60
Concords, per case	40 @ 65
Muskmelons—	
Jersey, per bu. box	50 @ 75
Del. & Md., per crate	75 @ 1.00
Col. Rocky Ford, f'cy, cr't	1.00 @ 1.25
Pony crate	75 @ 1.25
Watermelons, per 100	7.00 @ 20.00
Per car, best	135.00 @ 150.00
Peaches—	
Maryland & Del., per bas.	75 @ 1.25
Western Md., per carrier	2.00 @ 2.50
Up-river, pony carrier	1.25 @ 1.25
Jersey, best, per basket	50 @ 1.00
Michigan, per bu.	1.00 @ 1.50
Plums—	
Japanese, 8-lb. bas.	10 @ 15
Japanese, 8-lb. bas.	10 @ 15
Large, blue, 8-lb. basket	20 @ 22
Common, 8-lb. basket	8 @ 10
Egg, 8-lb. basket	18 @ 20
Damson, 8-lb. basket	20 @ 30
Blue Gage, 8-lb. basket	15
Bradshaw, 8-lb. basket	18 @ 20
German prunes, 8-lb. bas.	20 @ 25

VEGETABLES.—

Brussels sprouts, per qt.	6 @ 8
Cabbage—	
Per 100 heads	2.50 @ 3.75
Per crate or bbl.	60 @ 80
Cucumbers—	
Jersey, bu. box	80 @ 1.00
Per bbl.	2.50 @ 3.00
Cucumber pickles, per 1,000	2.00 @ 5.00
Celery, fancy, per doz.	40
Good to choice, per doz.	15 @ 20
Eggplants, Jersey, per bbl.	1.00 @ 1.25
Per bu. box	40 @ 50
Per ½-bbl. bas.	60 @ 75
Green corn, per 100	75 @ 1.75
Lettuce, Boston, per case	2.00 @ 2.50
Lima beans, potato, per bag	2.00 @ 2.50
Jersey, flat, per bag	1.00 @ 1.25
Peas—	
Telephone, West. N.Y., bas	50 @ 1.50
Small bas	50 @ 1.25
Peppers, Jersey, box	30 @ 40
Per bbl.	75 @ 1.00
Tomatoes—	
Choice Jersey, per box	75 @ 90
Delaware, per bas.	25 @ 35
Russia Turnips, per bbl.	1.12 @ 1.25
Onions—	
L. I. yellow, bbl.	1.25 @ 2.00
White, per bag	50 @ 1.25

POTATOES.—

Long Island, per bbl.	1.50 @ 1.87
Jersey & Md., round, bbl.	1.50 @ 1.75
Jersey, long, per bbl.	1.37 @ 1.62
Per bag	1.50 @ 1.65
Sweets, So., yellow, per bbl.	2.95 @ 3.25

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	35@37
Washed low	31@33
Washed coarse	30@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

All in a Lifetime.—Part 12.

VELMA CALDWELL MELVILLE.

Quietly the doctor's wife listened to her aunt's story of Jeff Greely's illness and death. Even when the good woman, shedding tears herself, told of her last talk with him, in which he confessed that the loss of his old sweetheart had so depressed him that it had aggravated his disease and, he believed, shortened his life, Patty Pearl sat tearless but very white, her hands toying nervously with the bit of cambric she was hemstitching.

"It is all very sad," she said simply, "and it seems dreadful to come back here and know I will never see Jeff; but, of course, he had gone out of my life; I had no right to even think of him, and perhaps 'tis better so."

Aunt Ruth lowered her glasses to look at Pearl.

"Well if you aint the beatenest girl I ever see," she cried almost angrily. "You used ter be meachen' round all the time 'fore ye went away 'nd now ye don't even cry."

"I am the wife of another," the girl answered, tilting her chin proudly, but maintaining a calm demeanor.

"So ye be, but I don't s'pose that prevents yer rememberen Jeff Greely."

No, it did not, and when Patty Pearl was once more alone in the little room she had so longed for, she sat down by the same low window where she had oft before cried over the estrangement of Jeff, and gave vent to her feelings. The part that appealed to her most was his fidelity even unto death, in the face of what seemed fickleness on her part. Anyway, now that he was gone, she was glad of her little confession in the woods during that dreadful electric storm. But maybe, after all, it only made it harder for him.

When she went down to supper Aunt Ruth, after relating some trivial occurrence at the funeral, plunged into the subject again. Patty Pearl listened in silence until a direct question demanded the same kind of an answer. Then she said:

"Please, Aunt Ruth, don't discuss this matter further; indeed, I could wish you would not mention it again at any length."

Mrs. Westover was thoroughly provoked now. She had so longed for her niece to come that she might thoroughly talk it over. There was no one else to whom she dare tell it, or, at least, so she had thought, but now—yes, she would tell Mrs. Waddle—it would do her heart good. Fortified by this inward resolve, she soon unbent toward her niece and was chatting of other things.

Mrs. Westover was a good soul, but lacked the delicacy of feeling possessed by her niece.

Life in the Westover neighborhood was quite an improvement over that at The Place, but Patty Pearl was not quite content until installed as mistress of a pretty little home of her own in town. Here she reigned a social queen, but what she enjoyed most was the companionship of the pastor's wife. So intimate did the two become that they were "Pearl" and "Jessie" to each other, and Ward, the latter's four-year-old son, was quite as much at home at "the dotter's," as at the manse.

With nothing and no one to interfere, the doctor and his wife lived an ideal life, at least so far as appearances were concerned. If in her heart Patty Pearl was not satisfied; if life lacked the one satisfying thing—true love—she never acknowledged it even to herself. By the next Christmas time a boy lay in her arms, and now she was sure she was happy. His name was Winthrop and he was the image of her own father. At first she viewed him with all the loving surprise that a new mother is wont to view her first-born. He was a wonder, a mystery. Then the feeling changed to one of proud possession. He was her boy, her own precious child, and she "dreamed dreams and saw visions," as she sat by the hour drinking in the beauty of his form and features. But gradually all this was merged into worship; she really idolized him to the point that some call sin. Day and night she thought of nothing else or none other. When her husband came in she filled every moment with merry accounts of the little one's every antic. Not a motion or smile but was of engrossing interest to her, and, of course, to him, the father of the child. At first, watching them and listening, the doctor's face—ofttimes a weary one—would light up, and he would seem to forget the worries of his business life; but one night when he sadly told of the death of a babe about Winthrop's age, his wife frightened him by the vehemence with which she pressed her child to her breast and cried out in sharp agony:

"If such a thing should happen here I would die—die. I could not live without my baby, my boy, my darling boy! Life would hold nothing."

The scene and words buried themselves into the man's brain and heart, and many the midnight ride they thrilled themselves over and over, just as they came from his wife's lips that night.

She could not live without the boy; without him life would hold nothing. If he had imagined, then, he had any part in making her happy, it seems he was mistaken—miserably mistaken. First it had been Jeff Greely; now it was their own child. The old bitterness slowly crept back, and though he treated her in the same considerate way as ever, had she been less engrossed with her child, Patty Pearl must have noticed a growing change—a mere silence at first; by and by a moodiness, and, at last—but this was many weeks after—a positive irritability. At this stage the doctor's wife began to notice and wonder a little, but matters came to a crisis one night when, holding the little fellow up, she demanded of her husband, who was tired, cross and in a hurry, that he "see, see!"

"Confound it, Pearl, I wish you wouldn't make a fool of yourself over that child! Can't you see I am in a hurry?"

If he had struck her full 'n the face she could not have been more surprised or hurt. She made no reply, and when, maddened by her silence, her husband cast a furious glance at her, he saw her standing white and shocked, her arms holding the child, and her lips quivering. Then she turned and walked out of the room, and he did not see her again until they met at breakfast. Here he watched her furtively, half longing to take her in his arms and anathematize himself as he now felt he deserved, half indignant that she carried herself so coldly and calmly. Before the morning meal was over, the babe was usually brought in and "put through his paces," as the minister laughingly expressed it, when Pearl or his wife was showing the youngster off. But this morning there was no intrusion, Pearl waiting upon her husband and leaving the girl to look after the baby. The doctor did not see the child that day at dinner, and late in the afternoon he went for a long drive and did not return until nearly morning. Then he went to his own room, which was opposite his wife's, and slept until late in the forenoon. When he came down the girl said that Mrs. Glen had taken the baby in his carriage and gone out to her Aunt Ruth's, the latter having sent for her. The doctor bit his lip. Matters were assuming an unexpected shape. Pearl in rebellion was not a pleasant domestic problem. The worst of it was he could not help blaming himself. It was rude, yes downright brutal in him to speak so to his wife, and about their own child.

And then the truth flashed upon him—he was jealous of his own child. The longer he thought about it the meaner he felt, save for the short intervals when he coached his worse self by remembering that Pearl had said that life would not be worth the living without the baby. She had not seemed to count him in as a factor in her happiness at all. But all mothers, especially young ones, were apt to be foolish. Maybe it was all his fault. Perhaps he was a sort of monstrosity that he did not adore the child as much as she did.

About three o'clock he drove around by Mrs. Westover's. He found Pearl just starting home. She acted natural, and it just did him good to hear the child's happy shout as he reached his arms to his father. Aunt Ruth promised to send the carriage in the morning by the hired man, and so Pearl took the reins and her husband the child.

In the morning, however, Winthrop was not brought in, and when the meal, eaten for the most part in moody silence on his part, which she did not try to break, was done, he arose hurriedly and went to his office. It soon became evident that Pearl persistently kept the child out of his way as much as possible.

This turn of affairs was more annoying than the other, but what could he say? His wife dressed prettily and smiled quietly across the table at him. This was the mealtime experience. In the evening she prepared the little fellow for bed in her own room and rocked him to sleep there, whether her husband was in or not.

And thus the summer and autumn passed.

(To be continued.)

In the Kitchen.

Mary S., Churchville, Va., gives the following recipe for dandelion wine: Two quarts of dandelion bloom over which pour one gallon of boiling hot water. Let stand over night; add two lemons and four pounds of white sugar; strain, put into bottles, tie a cloth over the bottles. Let the wine ferment; rack and put into bottles and cork tightly.

RHUBARB WINE.—To ten pounds of cut rhubarb add two gallons of water. The rhubarb should be bruised with a heavy weight, so the juice will come out readily. Let stand five days. Add eight pounds of sugar and the rind of two lemons to the strained juice. Let this remain four or five days more, adding to it on the second day half an ounce of gelatine to aid in clearing. At the end of five days skim any crust which may be formed on top, and put the wine in a cask. Do not cork the cask but leave the bung open for two weeks, then work the cask and let remain for six months before bottling. Let stand a month and it is ready for use.

CORN PUDDING.—Grate nine ears of corn, scrape carefully with a knife. To this pulp add a heaping teaspoonful of salt, butter the size of an egg, one pint or more of rich, sweet milk. Mix well and pour into a well greased hot baking pan. Bake in a quick oven. Turn out of the pan as you would corn bread and serve with butter.

Will some of the H. C. contributors give a recipe for making wild grape wine? Later I will send a recipe for wild grape catsup.

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M. A. Calhoon, West Plains, Mo., writes: I read the H. C. and have derived so much benefit that I want to help others if I can. I think all farms ought to be named. Ours is "Clover Valley Farm."

Have wood cut very small in winter for summer cooking; use a few large sticks for baking loaves of bread, so as not to get the fire too hot, as small wood does. I bake twice a week in summer. I have no hired help, but I have a place for everything and everything in its place. Have a large cook table with zinc on one end to set hot cooking vessels on. Have stove set out from the wall by using twisting elbow in pipe so you can get on either side of the stove. Use paper on cupboard shelves so it can be removed easily. Make dining table covers out of flour sacks, as they wash easily. They can be felled on seams. The best linen pays better for tablecloths than cheap linen. Keep all extra dishes set up that are not needed for general use, so as not to get so many soiled, and dishwashing will not be such a task. Leave nothing for flies to feed on. Keep all screens fastened except ones in general use. Cook enough for dinner in summer to have cold victuals for supper, as it is much better and we farmers cannot get along with less than three meals a day. Skim all milk once a day. If you only churn twice a week, have a tight box in cellar to set milk in, with cool water around the milk evening and morning. I do for a family of eight. I teach each child to help. We all work together and have time for recreation. I bake a cake for each one's birthday as they come around. Each one will help you to do the chores in the kitchen better for the treat. Husband takes the P. F. and we all like to read it very much. To treat a scald or burn, take alum and white of egg, mixed to a paste; spread or bound on will draw out the fire and heal quickly.

HOP YEAST BREAD.—For five loaves take one-half cupful dry yeast dissolved in warm water; add flour to make a batter; let rise until light. Have prepared one quart boiled sweet milk; let cool until lukewarm; add flour to make a batter and the aforesaid cup of yeast; let rise over night. Next morning sift flour in bowl, add one tablespoonful salt, two tablespoonfuls sugar, one quart lukewarm water and yeast. Mix and work as stiff as you can. Let rise until light; work down and put out in loaves in greased pans. Let rise again and bake in a moderate oven. When cold put away in large jar or can—something that can be scalded every bake day.

Nursing.

A. E. C.

A few words on nursing may be timely, from one who has had some training and years of bedside practice.

In the first place, do not become "flustrated;" keep cool, whatever happens. Then strive to keep your patient comfortable, in so far as compatible with the doctor's treatment. Keep him clean; keep him quiet. No matter whose feelings are hurt, allow no visitors in the room, or talking near it, when such things annoy the patient.

Use tact with those visitors in whom common sense is lacking, if there is time or opportunity, but consider the patient first. Some patients require to be nourished, some to be starved; distinguish between them and work to the end in view. It is mistaken kindness to deviate either way. Consider the light in the sick room; shade the lamp when it has to burn. Have in the sunlight when possible, but do not allow it, or glare from a window or mirror, to be full in the patient's face. Whispering, squeaking shoes, the "swish" of a long skirt, or the rustle of a heavy or starched one, are abominations in the sick room; so are spitting and a creaking rocker. Try to be cheerful, and keep your patient so. "A merry heart doeth good like medicine." Follow the doctor's directions to the letter, when possible; but when contingencies arise, or results from the medicine are other than were expected, use judgment until the physician can be communicated with. And hide nothing from him, neither new symptoms or developments, nor adverse results of medicine; nor carelessness or forgetfulness of your duties or responsibilities. All, even the smallest things, may have bearings that you even do not dream of.

Then if the sickness promises to be long, learn how to spare yourself, without neglecting your patient, so that your strength will hold out to the end of the siege. And strive to be patient, patient, patient.

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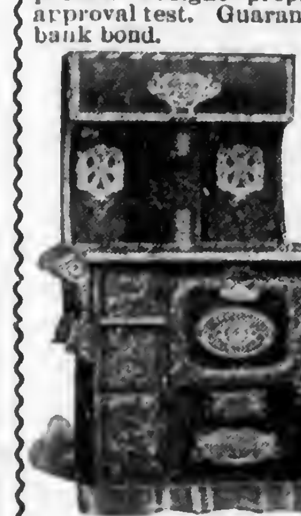

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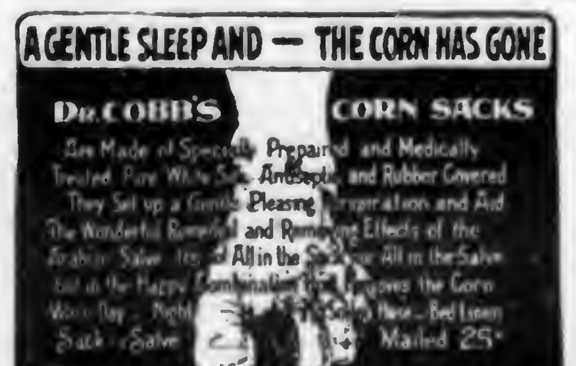
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Stray Notes from Engleside.

FLORENCE A. HAYS.

It was Christmas eve, cold, rainy and disagreeable outside. Turning the corner of one of the main streets we noticed a man talking excitedly while trying to load several boxes of provisions, we presumed, into his wagon. Everything had the appearance of having come a long distance. It was growing dark when a small boy, thinly dressed, having a tired, forlorn appearance, came up.

"Did you get anything for mother?" he asked.

Then his father repeated several times: "There was nothing at all, not a thing in the whole town for her."

"But, father," the boy repeated, "we ought to get her something. I don't want to go home without something for mother."

"Got any money?" his father asked. "I haint got a cent; all gone."

Evidently the boy had none. We watched them drive away in the gathering darkness. How far their road lay towards the mist of the hills beyond we knew not, but somewhere there was a wife and mother, and perhaps little children, awaiting the familiar sound of the old farm wagon and father's home-coming with the Christmas gifts, but what a home-coming it would be!

The lights twinkled and shone in gaily decked shop windows; childish feet hurried along; richly clad ladies, with their husbands and friends, passed to and fro with their arms full of bundles, their faces full of Christmas joy. But there rose ever before our eyes the sad, hungry, pleading eyes of the little boy who had left the beautiful shops, the bright lights and happy faces for the cold, heavy mountain roads, with an aching heart and no gift for mother—because father had been to the saloon.

• • • • • • • • •

The geraniums we started last fall are blooming right along; so have the fuchsia; the begonia is a thing of beauty; an asparagus speciosum is taking long strides upwards. They are kept in the south window, so as to get all the sunshine possible, which is not any too much for the begonias these days. We sprinkle them twice a week, and water with luke-warm water as often as required.

Clarke Co., Wash.

Along the Lines.

Hon. Geo. P. Wheeler writes of what woman suffrage has done for Idaho: The saloon and the brothel have been eliminated as potent factors in political contests. That element no longer dictates who shall be placed on the various tickets. In fact, the candidate himself fights shy of this support. To know that he caters to that support is sufficient effectually to damn him with the women. The fact of the woman's alarming independence and her well recognized liability to kick over political traces, forces the different parties to put forward their very best timber. The man who wins his nomination by a successful "job" at the convention is practically certain to go down to ignominious defeat at the polls. You can't work a political trick on a woman. What she lacks in political sagacity and experience, she atones for in good sense, and she has a habit of always demanding "the reason why," which is occasionally most unpleasant. There are transactions at conventions which are frequently best left unexplained, but not with your woman voter. So the wholesome fear of the woman voter of Idaho has forced the political parties to put forward a very superior class of candidates for both county and States officers.

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Elnora M. Babcock writes: There recently appeared in the newspapers the following: "Three Polanders, who could not speak a word of English, were recently sent to Bay State, Long Island, tagged as express packages. They had been shipped from New York and were delivered in an express wagon."

How long these "express packages" have been floating about is not stated, but we are reminded that in a short time these "express packages" may, by a very little coaching, be voting upon questions of national importance in this country. Over 758,225 emigrants have landed during the last eleven months. Of these Italy, Austria-Hungary and Russia furnished 65 per cent. As a rule, these men are of the most ignorant and degraded type, bringing with them the most primitive ideas of the degraded position which improperly belongs to women. To such men as these, who hold the balance of power, our intelligent, patriotic, law-abiding, tax-paying American women are obliged to plead for their political rights. Is it any wonder that our intelligent American women cry out in despair the prayer of Dr. Lyman Beecher: "Oh, Lord, grant that we may not despise our rulers; and grant, oh, Lord, that they may not act so that we can't help it!"

How to Remove Ink from Mahogany.

SARA J. BENTON.

A reader of the H. C. desires very much to know how to remove ink from her handsome mahogany dining table. She says I gave a recipe, or method, for this trouble some time ago, but she did not cut it out, not having a table or need for one then; but as this is one of her bridal presents, of course it is very dear to her. If an ink stain gets upon any of my mahogany pieces I remove it with a few drops of spirits of nitre. Put it in a teaspoonful of water, then put one drop on the ink spot and rub at once with a cloth wet with water, or it will make a white spot. Every day a dining table of mahogany should be wiped off with a clean flannel, dipped in a warm suds of Gold Dust washing powder. Have the water barely warm, then with a thick flannel wad pour melted wax until it forms a glazed surface. When cool and hard rub the table, following the grain, until it reflects your image like a mirror.

I get ink spots upon my mahogany writing desk quite often and I always remove them at once with a few drops of spirits of nitre in a little water, but you must be quick about rubbing it off, else it will leave a white spot.

Kentucky.

Hints and Helps in Drawing.

MRS. J. D. SPRING.

Wall paper will do to practice on; use the back of it. Hard pencil, rubber eraser and ruler with one beveled edge on which are inch subdivisions, are needed. When drawing, sit with your left shoulder towards the window or strongest light. Use a faint line in all cases; then when an accurate outline has been secured you can darken the lines. Do not bear on the pencil. Draw from left to right. Begin at the top and work down. Avoid hard lines. Practice on plain copies until you draw them perfectly, then take more difficult ones. In going over a line to darken it move the pencil in the direction in which it was drawn. In drawing from objects, begin with the part presenting a front view, because there is no difference between the real form and the apparent form. To determine the apparent height of an object hold the ruler upright at some fixed distance between the eye and the object; note the number of inches on the ruler. To find the apparent width, hold the ruler in a horizontal position and facing you, decide the width. Never use a pencil less than four inches long. To insure good work the point must be always kept sharp.

Monmouth Co., N. J.

Youth's Parliament.

Anna Grasser, San de Fuca, Washington, writes: Dear Mrs. Melville: I live on a farm of 310 acres, and like it real well. We have been living on it for nine years. I am fifteen years old, and have a sister older than myself and two brothers younger. We have five acres in orchard, which includes apples, cherries, pears and plums. We have two horses and a colt, 31 head of cattle and 100 sheep. I have for pets, a cat, kitten, lamb and pup. When we go in bathing the dog will follow my brother all around in the water. We have a nice, cool summer here. We hardly have any thunder storms during the year. We do not have very cold winters here, and but very little snow. My papa has taken the P. F. for nine years and we all like it real well. When we get it I always turn to the H. C. to see if there is any Y. P. We live half a mile from the school; we can see it when we look out of the window. The studies I take are arithmetic, algebra, history, spelling and penmanship.

Alice E. Dugger, Hettick, Ill., writes: Dear Mrs. Melville: I am a little girl 10 years old. I live on a farm of 142 acres. My papa takes the P. F. We like it very much. I have three brothers and three sisters. We have two colts, six horses, three mules, six calves, seven cows, three cats, four kittens, a white dog and twenty head of fat cattle, and a good many hogs. They are all pets, even to the little mule. I ride horseback very often; I rode at the county fair when eight years old, and got the blue ribbon. My oldest brother is a shut-in.

Della Pegram, Kernersville, N. C., writes: Dear Mrs. Melville: Will you please allow me space for this letter, as it is my first and papa is a subscriber to the P. F.? Nearly everyone who takes this valuable paper around here likes it. I am fifteen years old and a farmer's daughter. I live on a farm not far from the town of Kernersville and I like to live in the country, where there is plenty of fresh air, pure water, beautiful trees and flowers, and where I can hear the sweet songs of the dear little birds. I haven't any pets except a little sister. Her name is Clara. I have five brothers and two sisters younger than myself; and one dear sister older than I am, in Heaven. I would like to correspond with some country girl about my own age.

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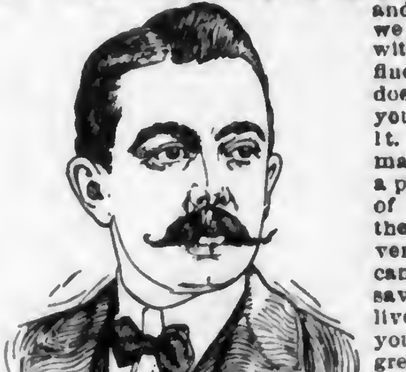

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Topic No. 593, Oct. 10.—*Have You Tried Any of the New Irish Potatoes Which Have Been Introduced? If so Give Your Experience with Them as to Yield, Earliness and Quality.*

Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 591.—How do You Get Rid of or Prevent Broom Sedge in Pastures?

W. R. English, Rome, Ky.—The old axiom, "A stitch in time saves nine," is exemplified in a marked degree in eradicating and keeping under control the pestiferous growth known as broom sedge. The first sign of it, when there is just a sprinkle here and there, if one will take a common hoe he can in a short time dig it up. Spring is the best time, as the ground is soft then and it comes out easily. I have a small meadow of timothy which I treated in that way last spring and not a vestige of broom sedge can now be seen. There is little excuse for a farmer to have a field of broom sedge. It comes on so slowly that he can dig it out before it gets a final hold. If he puts it off until it gets a thick sod it is well nigh impossible to kill it out. Turning the ground, unless it is completely hidden, puts it in fine shape for growing.

E. J. Adkisson, R 13, W. Nashville, Tenn.—Before the sedge has secured too much of a footing, digging it out before it runs to seed, is about the best we can do. When a field gets too badly infested, thorough and clean cultivation in corn or some such crop, and smothering growths like the cow pea, will do the work. If the sedge seeds were not so easily carried about by the wind we would have but little trouble with it, but it is one of that class of extra pestiferous weeds that no matter how careful one may be, if the weeds are allowed to run riot on adjoining lands, there is little hope of ever being entirely free from them.

SUMMARY.

Though a full Pool gives the Editor increased work we are always disappointed when our friends fail to give us a full discussion. Hence we regret especially that such an important topic, particularly to the farmers of the South, as the eradication of broom sedge should meet with hardly any response. The Northern farmer when he first visits the South is struck with the great abundance of broom sedge covering the old fields, which, through the careless culture of the past have become unproductive, and which have been thought worn out, and he assumes that broom sedge is always an indication of poor land. And right there he makes a great mistake, for while broom sedge is nature's great remedy for man's wastefulness, and is the means she uses to cure the evils of past errors in the cultivation of the soil, like every other species of grass, broom sedge grows better on strong land than on poor. Though called a sedge it is not a true sedge, but a true grass. Some years ago a few parties in Virginia came to the conclusion that since broom sedge is a natural product that it could be made a valuable hay crop, and so much was said about it that the Agricultural Society of Virginia did offer a premium for the best bale of broom sedge hay. We remarked at the time that it would be a difficult matter to say which bale was the best and that the only way we could think of testing it would be to place some good clover hay before cows, alongside the broom sedge hay, and that when a cow ate a sample of broom sedge hay in preference to the clover hay that sample certainly was the best. There is no doubt that an old broom sedge field that has been burned off in the winter will in the spring furnish an excellent pasture for milch cows so long as it keeps tender, but it so soon becomes tough and wiry that it is worthless for a greater part of the season. Hence the broom sedge should be treated as a weed to be exterminated. From Maryland southward the great difficulty which confronts the farmers in keeping up a permanent pasture is the intrusion of broom sedge after a few years until in a short time the sod is all broom sedge. It is creeping slowly northward, for a year or so ago a farmer in Ohio sent us a sample, asking the name of the grass that was coming in bunches in his pasture, and whether it would prove a pest or an advantage. We told him to eradicate it at once if he wanted to save the pasture. This grass would not be so bad if it would make a dense sod, but it is inclined to grow like orchard grass, in great clumps, and thus to thinly cover the ground. But fortunately, like sheep sorrel, it abhors a sweet soil, and thrives in acid conditions that are unfavorable to better grasses. The rankest growth of the broom sedge is always on low, black and fertile moist lands that need lime, and while it grows all over thin abandoned uplands, it simply shows that the grass can exist under conditions unfavorable to the growth of better grass. There are some members of the same family, the Andropogons, which are valuable meadow grasses. The blue joint of the Western prairies is a close relative of the broom sedge of the South, but is far more valuable. The problem to the Southern farmer, then, is how to check its growth and substitute for it better grasses. As we have said, broom sedge will thrive under acid conditions in the soil that are unfavorable to clover and the better grasses. Hence to get rid of broom sedge we should bring about conditions in the soil favorable to better growth. The main reason that permanent pastures in a broom sedge section run out of good grass and into broom sedge is the failure of the farmer to keep up the fertility of the soil by annual top dressings and an occasional dressing of lime to keep up a weak alkalinity in the soil. A pasture that has annually a dressing of bone meal, and once in four or five years a light application of lime at the rate of 15 to 20 bushels per acre, will never run into broom sedge, since the growth of the better grasses will prevent it. On outlying waste lands the best way to exterminate the broom sedge is to get the Japan clover, or Lespedeza, started on them. In many sections of the South the natural spreading of this plant is driving out the broom sedge and replacing it with a valuable summer pasture plant. We have driven out broom sedge from a rocky pasture, where we could not plow, in a single season by merely scattering the seed of Japan clover among the broom sedge in the spring. The outlying waste lands are the nurseries of this weed from which the wind blows the light, feathery seed over the cultivated lands, and if we get rid of it there it will not be hard to keep it out of the pastures and cultivated lands.

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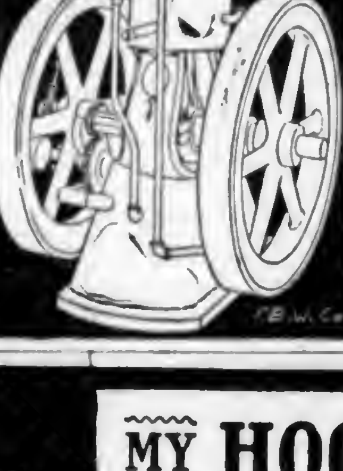

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to operate them. You can do it yourself with perfect safety and save that expense. That reduces cost of running it to but a few cents per hour for the heaviest duty the farmer has. Then they are ever ready and dependable. Full power developed instantly. You should investigate. Write us to send you free our Gas and Gasoline Engine book and learn more about them.
Don't let the price frighten you; they are not expensive.
THE FAIRBANKS CO., NEW YORK.
Baltimore, Md., New Orleans, La., Buffalo, N. Y., Albany, N. Y. Philadelphia, Pa., Pittsburg, Pa., Boston, Mass.

MY HOG WEIGHS 1100 LBS.
EASTHAMPTON, MASS., March 20, 1903.
International Stock Food Co., Minneapolis, Minn.
DEAR SIRS:—I have a large hog that was raised on your "International Stock Food" and he now weighs 1100 lbs. This hog is three years old and is as strong on his legs as any hog weighing 150 lbs. He is half Chester White and half Poland-China. He is still growing and every one is satisfied that he is the largest hog in America. Truly yours,
STUART R. DICKINSON.

We Have Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited.

We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all our World Champion Stallions, Dan Patch 1:59¼ and Directum 2:05¼; to our Young Stallions, Brood Mares, Colts, Work Horses, Cattle and Hogs. "INTERNATIONAL STOCK FOOD" 3 FEEDS for ONE CENT is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite and Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It is Absolutely Harmless even if taken into the Human system. You insist on eating medicinal ingredients with your Own food at every meal. Salt is a stomach tonic and worm medicine, Pepper is a powerful stimulating tonic, Mustard is a remedy for dyspepsia, Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these Medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World. Your Money will be Promptly Refunded in Any case of failure. It will make your Calves or Pigs grow Amazingly and has the largest sale in the World for keeping them healthy. Beware of the many Cheap and Inferior Imitations. No Chemist can separate all the Different powdered Roots, Herbs, Barks and Seeds that we use. Any One claiming to do so Must be an Ignoramus or a Falsifier.

WHAT PEOPLE SAY ABOUT THIS BOOK.
INTERNATIONAL STOCK FOOD CO., EAU CLAIRE, WIS.
Dear Sirs:—I received your "International Stock Book" and was more than pleased with it. It is worth more than $10.00 to me. Very truly yours, RICHARD J. MORRISSEY.
INTERNATIONAL STOCK FOOD CO., ODESSA, MO.
Dear Sirs:—Your "International Stock Book" duly received, and it is the best thing of its class that I have ever seen. There is a volume of useful articles in it from start to finish. Respectfully, GEO. W. NULL.

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IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.
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Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

My Cultivator.—This cultivator can be made at home at very small cost. Take two pieces of 2x4, 3x3, or they may be hewed out of a small log with an ax. Make an "A" frame, the sides about 4 feet long and the rear piece about 2½ feet, according to the width of rows which you have to cultivate. I would prefer oak for the frame, and if 2x4s are used, stand them on edge. Bolt the two long pieces together like the letter V, then bolt the short piece across the top. Fit a piece in front between the side pieces to hold the front tooth. Handles can be made of 1x2 stuff about 4½ feet long. Make the handle supports of the same material as long as may be necessary to bring the handles to the proper height. Anyone can see how to put the handles on now. Buy five long, narrow double shovel points about a foot long. Have the blacksmith bend these at right angles just below the hole or about 2½ inches from the top of point. Buy ⅜ bolts to fit the holes in points. They should be 5 or 6 inches long, according to size of frame of cultivator. Bore holes for these bolts wherever the shovels are to be located. You can bore hole for clevis or nail an old piece of chain to frame to hitch singletree to. Hand-holds can be whittled out upon the ends of handles. I have seen 14-tooth cultivators made upon this same principle, using harrow teeth for the teeth of the cultivator, being simply a narrow harrow with handles.
R 5, Morristown, Tenn. P. D. CONVERSE.

Making a Plank Stone Boat.—Most of the stone boats in use are made with runners. I prefer to procure two planks of the desired length, each about 15 inches wide and 3 inches thick. I then measure 12 inches from the end on top of plank and 18 inches on the opposite side, as shown in

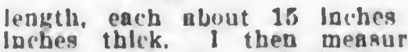


Fig. 1.

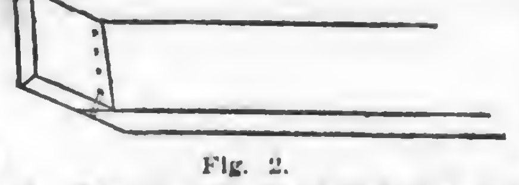


Fig. 2.

Fig. 1. Saw through the dotted line, turn the end of plank over and with four bolts fasten it as shown in Fig. 2. Do this with both planks, place them side by side and fasten with strong cross-pieces. This makes a good boat. BURTON W. BOYCE.
Oneonta, N. Y.

Separator Turned Hard.—For the first six months after setting up our hand separator it ran very smoothly and easily. Then quite suddenly it began to run harder and to make strange noises, growing worse very fast. For several days we tried to find out what was the matter, examining the ball bearings and the neck bearing where the grinding noise seemed to be located, but found nothing wrong. Finally it occurred to us to try the machine with the spirit level, and we found that it had settled a little to one side. Since leveling it up it has run as nicely as ever. When at the worst it took the machine only about three minutes to run down after dropping the crank, but now it will run for nearly ten minutes before coming to a standstill. This shows what a difference it makes to have the machine just a little out of level. SUSAN B. ROBBINS.
Abington, Mass.

[There is a whole lot of machinery of different kinds that is running hard and doing poor work simply because it is not properly leveled up and adjusted. I have often noticed that some operators of power corn shellers and threshing machines are not sufficiently careful to have their machines just level.—ED.]

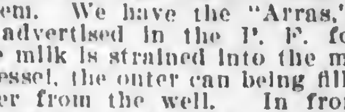
The Best Hand Weeder. — The best hand weeder that I have ever used is made of an old steel corset stay. Take the widest one, bend it until the two ends meet, then put on a handle. It can be made in a few minutes and the only cost is a little time and some sacking twine. S. H. CHRISTIAN.
Cheney, Wash.

My New Seed Drill and Wheel Hoe.—This year I have used an Iron Age combined seed drill and wheel hoe, and would not be without one for many times its price. It is an unusually valuable tool for distributing seeds evenly, and by a proper adjustment of the hoes I can do several times as much effective work in any kind of hoed crop as could be done in the same time with the ordinary hoe, and with much less fatigue. I feel that one year's use will more than repay its cost. E. F. CRIST.
Blasdell, N. Y.

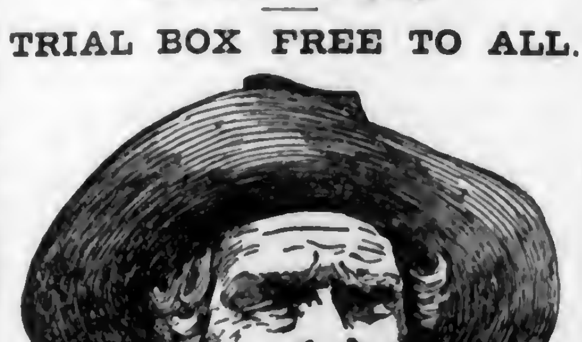
Self-Cleaning Cistern. — We have a self-cleaning cistern built of brick with a depression at one side of bottom. The overflow pipe is laid with an elbow at the lowest point in the depression and is connected with a tile passing up on the outside of the cistern wall. The wall is drawn in at the top to meet a two-foot sewer pipe which is cemented to the top of the wall. This sewer pipe extending only a few inches above the surface of the ground, brings the brick wall below frost. The overflow pipe extends up to the point at which the wall begins to draw in. When the water rises above this point the pressure causes the water in this pipe to flow out and it carries with it all the sediment from the bottom of the cistern. This is cheaper than a filter. Our cistern, which holds 90 barrels, has been in use over six years and gives entire satisfaction.
Northfield, O. E. RICHEY.

Cream Separating Can.—This is the latest addition to our home stock of dairy implements. It is indeed a labor-saving device, as it does away with all skimming, washing and sunning the crocks, etc. It is as easily cleaned as a tin bucket, and we make a little more butter than we did with the old crock system. We have the "Arras," which has been advertised in the P. F. for some time. The milk is strained into the milk can, or inner vessel, the outer can being filled with fresh water from the well. In from three to five hours the cream has raised and the milk can be drawn off and fed sweet to the calves or pigs, which I consider no small item in favor of the separator. It is fitted with a strainer, which also serves as a ventilator and cover and is good as far as it goes, but should be used with a cloth one underneath. The can has two large faucets at the bottom, one for milk and the other for the water can. The water can is made of galvanized iron; the milk can of heavy block tin, and I think all will prove to be very durable. MRS. LEE HOOVER.
Lincolnton, N. C.

Simple Hand Weeder.—I took a handle that had been broken off a steel frying pan (any flat piece of steel will answer the purpose). The piece that I used was about an inch wide. About 3 inches from the end I bent it at right angles, then filed end and both sides of bent end to a cutting edge, thus having three sharp edges to cut with and two sharp corners on the end with which to get close to small vegetables; closer, even, than I could with my fingers to pull weeds.
Chambersburg, Ind. H. S. LOWRY.



Saw Horse for One Man.—Take a light plank 5 feet long by 8 inches wide and put legs 2½ feet long under one end. Now take a cross-cut saw and start in centre of other end and saw a kerf to within one foot of the opposite end. Now mortise a place for a handle one inch wide; make handle 3 feet long. Bore ⅜-inch holes in centre of handle 4 inches apart, also bore a ⅜ hole through width of handle and insert bolt to hold handle. Bolt saw to lower end of handle, lay horse across log and you are ready for sawing. The groove in plank keeps the saw straight, also prevents it from cramping. Any man can saw the lowest log without stooping. GEO. GOOD.
Martin's Creek, Pa.



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82 years old, cured of Rheumatism after suffering 42 years.
For rheumatism, that horrible plague, I discovered a harmless remedy, and in order that every suffering reader may learn about it I will gladly mail him a trial box free. This is no humbug or deception, but an honest remedy that enabled many a person to abandon crutch and cane. In Lyon, Mo., it cured an old gentleman 82 years of age, after suffering over 40 years. In Denham, Ind., it cured a lady, who then cured fifteen of her neighbors. In Marion, Ohio, it enabled Mrs. Mina Schott to abandon her crutches. Rev. C. Sund of Harrisville, Wis., testifies that this remarkable remedy cured two members of his congregation, one who had suffered 18, the other 25 years. In Bolton, N. Y., it cured an old gentleman 83 years of age. Never before has a remedy been so highly endorsed as this; among the eminent people who endorse it, is Doctor Quintero, of the University of Venezuela, whose endorsement bears the official seal of the United States Consul. No matter what your form of rheumatism is, nor mind if doctors say you are incurable, write me today sure and by return mail you will receive the trial box, also the most elaborately illustrated book ever gotten up on the subject of rheumatism, absolutely free. It will tell you all about your case. You get the trial box and this wonderful book at the same time, both free, so let me hear from you at once and soon you will be cured. Address: JOHN A. SMITH, 2654 Germania Bldg., Milwaukee, Wis., U. S. A.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

Special Notice. The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. To rent a farm in Lancaster Co., Pa., with view of buying. 100 to 150 acres. Give full particulars. Address Box 203, Renovo, Pa.

For Sale or Exchange. No. 3½ U. S. Turbine Separator for 8 to 12 horse-power engine without boiler, or Jersey heifers. J. S. WHITEFORD, Whiteford, Md.

Sale or Offers. Oxford-down ram lamb; big, strong and healthy; bred from imported stock. Exchange for shot gun. H. N. MUSSER, Route 5, Wooster, Ohio.

80-Acre farm for sale, 70 under cultivation; good land, new frame barn and other buildings. For further particulars apply to H. H. TENHAVE, R. D. 3, Coopersville, Mich.

Southdowns pure-bred, vigorous rams and ewes, of various ages. Will exchange for pure-bred hogs, Shorthorn or Holstein cattle, or offers. J. HOMER REAMS, Luthersburg, Pa.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

260 Acre Farm, well watered, fine timber, good orchard, large brick dwelling, barn and outhouses. For further particulars apply to L. H. RIXLEY, Lisbon, Bedford Co., Va.

Farm for Sale or Trade. A first-class farm of 90 acres, near Conneaut Lake, Pa. Will sell on very reasonable terms or trade for small place. Address LONE PINE FARM, Route 3, Meadville, Pa.

For Sale or Exchange. One thousand Single Comb White Leghorns, Wyckoff & Blanchard strain. Beautiful, early hatched cockerels and pullets, strictly thoroughbred. C. N. REYNOLDS, Canton, Pa.

For Sale. Two ¼-sections of No. 1 wheat land, 7 miles from R. R. 140 acres ready to sow. One ¼ improved. All under fence. 60 acres in virgin sod. All stock, implements, household goods, tools, etc., ready for a person to go to work. For particulars write. I. E. LORAUGH, Delight, Wash.

262½ acre dairy-truck farm, 40 miles south of Atlanta, Ga., on Central R. R. Station and P. O. on place. 2½ miles from Griffin; 5 large cotton mills; good market; 80 acres in high state of cultivation. Balance in good pasture; all lays well. Good spring water; 8-room house; 2 barns; 200 apple trees. $30 per acre. A. R. TAYLOR, Vineyard, Ga.

Farm for Sale. 50 acres on east side beautiful lake, one mile wide—on State road. Daily rural mail; telephone. Can have artesian well for less than wind mill. Raises big crops red clover. Best part peach belt; will raise $2,000 to $4,000 peaches each year. Two miles from Lake Michigan R. R., and daily boats 8 miles north, also 4 miles south. Price, $35.00 per acre, stumps out. Has 4-stall stable; no house. Easy terms. S. E. RUSSELL, Pentwater, Michigan.

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Chatham Fanning Mill
Sold on 365 Days' Approval Plan
That enables you to let the mill pay you before you pay for the mill. There are many reasons why you need a
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To clean grain and get the top price; to free it from foul seeds when you sow it. Made for all kinds of grain and seed. Write for free book "How to Make Dollars Out of Wind," and our special price and plan.
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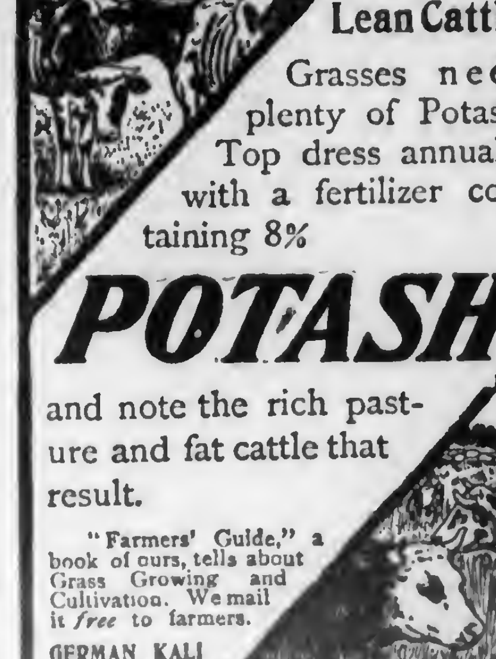

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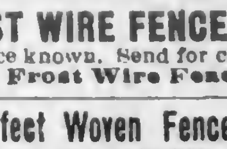

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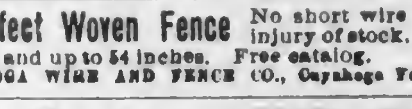

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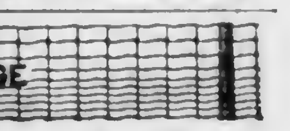

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We make them for 1, 2, 3 and 4 horses, with speed regulators. Unequalled for Cutting and Grinding Feed, Sawing Wood, Threshing, Pumping Water, etc. Also make Threshers, Engines, Feed Cutters, Silos, etc. *Illustrated Catalog Free.*
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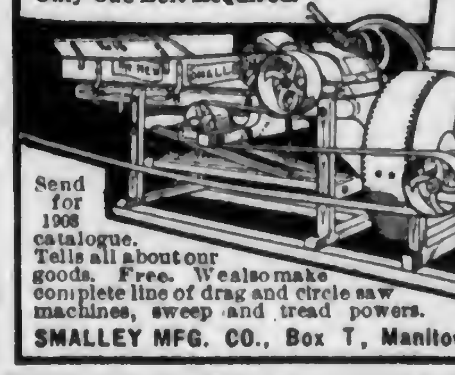

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Send for 1903 catalogue. Tells all about our goods. Free. We also make complete line of drag and circle saw machines, sweep and tread powers.
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in ensilage cutting time? Self Feed on "Ohio" cutters does that and more, and increases capacity 33⅓%.
1903 "OHIO" Blower Elevators
solve the Blower problem. They successfully elevate ensilage into silos up to any height, as demonstrated by abundant proof in 1903 catalogue. 10 and 12 H. P. Engines drive Nos. 13, 16, 18 and 19 Cutters with blowers, and all other sizes "Ohio" Ensilage Cutters. In capacity "Ohio" Cutters lead; 10 to 30 tons per hour.
1903 Shredder Blades (patent applied for) are interchangeable with knives, all sizes. They put corn stalks into best condition for feed, running at normal speed.
Our absolute guarantee goes with every machine. Made by
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Established 1854.

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Feeding for Winter Eggs. — My experience in feeding chickens for winter eggs is as follows: First, a good warm house is necessary. It should be dry and have scratching shed attached. In the morning I scatter small grain in the litter, generally cracked corn, oats or wheat, and the hens scratch. About noon I throw another small quantity of grain in the litter and again they scratch; in fact, they scratch from morning till night for every morsel they get. Then at night just before they go on the roost I give them a mash consisting of bran and shorts scalded and fed warm, but not hot. I give them all they will eat up clean in ten minutes, fed in troughs that the fowls cannot get into with their feet and soil the food. Fresh water, warmed a little in extreme cold weather, is given them about twice a day. Oyster shell is always before them and a cabbage head is hung up in each pen every two or three days. The fowls then can do the rest. In return for this way of feeding eggs were plentiful with me all last winter. Some of my Orpington pullets laid 28 eggs from January 14th to February 14th, while my Barred Rocks did nearly as well.

Feeding Young Chicks. — My experience in feeding young chicks for best success is that it is best to give dry feed from start to finish. Give cracked corn, wheat, oatmeal or any grain the chicks like, but feed it dry. I am raising about 125 chickens this spring, hatched from March until now, and I haven't lost but two chicks this summer, except by hawks. In conclusion will say, make your hens scratch for eggs and feed dry feed to young chicks, avoiding wet or sloppy food. Wish the P. F. and all its readers success.

Barrackville, W. Va. E. R. I. FREELAND.

Fine Potatoes.—For several years I have been raising fine potatoes. I attribute my success principally to my method of planting, which I learned from a German who was a great potato raiser. I do not cut my potatoes except the very largest; these I cut in two. The smaller ones I plant whole. Then if the weather is dry there is a whole potato or large piece to nourish the vine. Planted in this way the vines are large, strong and vigorous, often waist high. But don't think from this that they have "gone to vine," for the tubers will be there, a pan full to the hill and but few small ones. Try a few this way and you will be convinced. We are trying the Buff Plymouth Rock chickens and like them very much. They are good layers and good sized fowls.

Morrisville, Mo. J. W. BOND.

Clover. — It is the generally accepted opinion that clover does not do well this far South. I have been successful with it for several years. Filled barn with well cured clover hay about the middle of last month. The seeding was on oats last October. The oats (turf oats) a failure, partly from heaving out in February, and later from rust. The clover on bare clay spots failed—heaved out and killed by hot sun afterwards. Where sod was plowed under the stand was fine and the plants grew well, notwithstanding a long spring drought. Where the land was moderately fertile the clover grew quite tall —five feet. Of course it fell down, but by following mower with fork, to keep track clear, the mowing was successfully done. My experience is not exceptional in this section. At intervals for years back one farmer and then another has grown it.

Clinton, Miss. T. G. SMITH-VANIZ.

80 Acres with Debt or 40 Without?—Father died ten years ago, leaving us a nice 80-acre farm and a big debt on it. We three boys were then young in years and inexperienced in the ways of the world. Right here I will say that we soon got experience which has been valuable to us, also got "done up" many times by sharpers. Two of us left the school which we were attending and helped the hired man through the summer. Meanwhile the debt did not get much smaller; the years went on and our education at the high school was never completed. But it seemed our education in the "earth life school" was well advanced. So ten weary years were passed. One day in the joyful springtime a strapping young German came along and bantered us for a trade. He had 40 acres with all the necessary buildings, etc., in fine shape, which he wanted to trade for our 80 and the debt. Acting from the impulse of "strike while the iron is hot," which we had learned from the world's best men, we traded and have since blessed the day and the German, too, on which and by whom the way was opened for us to drop that burden of debt by the wayside. We had too much debt and neither the soil nor the buildings which would help towards liquidating the debt on the 80. On the 40 we have all that can be desired. One of us can now work the farm and the other pursue his neglected education or go into business in town, which he did.

Owosso, Mich. DORRIS M. MATE.

Those Potato Bugs.—I have for years been bothered by the potato bug; last year they were unusually bad. In paring potatoes for use which grew last year, we noticed dark streaks which often resembled layers, confined mostly to the end of the tubers. These were the Early Northern Rose potato. I used them for seed this year and in cutting the seed I was careful to reject all that were affected with the dark streaks or layers. There is not a bug on my early potatoes this year and they are nicely in bloom. They were planted on the same ground last year; in fact, for a number of years. Whether this has any bearing on the bugs or not, it seems significant, at least. W. R. ENGLISH.

Rome, Ky.

[We might almost imagine the bugs so affecting the plants as to cause the streaks, but not *vice versa*.—ED.]

Mistake in Saving Seed Corn.—Many farmers here in Northern Ohio practice saving their seed corn at the time of husking. This manner of saving seed corn is unreliable here, and poor stands very often result from it. My plan is to go through the field as soon as the husks begin to turn yellow, taking a basket and picking the most promising and earliest ripening ears. I then take the corn to house or barn and strip the husks down, retaining the fullest formed and best shaped ears. I then braid some four ears together and hang up to dry in a safe place away from vermin. The secret is in having the corn thoroughly dry before freezing weather comes. Many farmers here last spring had trouble with seed saved in the usual manner. I tested some corn last spring that was grown five years ago and found it all right.

Bedford, O. C. W. KELLOGG.

Fond of Fried Chicken.—We are very fond of fried chicken, not just a few through the summer, but all the time. I always set a few hens in September to raise winter fryers. I make them a warm, roomy coop in an old shed or outbuilding; or, lacking either, I have raised nice broods under outbuildings that were underpinned on the north and west sides. They must have some place to scratch and dust on stormy days. I feed dry food and give clover chaff to scratch in. I train the hen to range where the older chickens will not bother. I can usually make a hen range where I want her to by tying her in that direction for the first few days, and driving her to the roost every night. Last year I had 19; hatched and raised every one. When I killed the last pullet in March she weighed 5 pounds and was laying. Fall hatched pullets make the best summer layers, but I have never had them get as large as spring-hatched pullets. MARY MURPHY.

Eldorado, Ill.

Green Wood Again.—One of the mistakes of burning green wood, and one not mentioned by J. F. Dosier in his article a few weeks ago, is that the constant use of green wood soon ruins a stove by warping it out of shape. While the green wood of the Northern oak and the gray birch give out a good heat, in this part of New England it is called the sign of a poor farmer to see the good wife burning green wood. I always believe in having a good supply of dry wood on hand at all times, all ready sawed and split for the stove. WILBUR LINCOLN.

Accord, Mass.

To Keep the Hands Smooth. — To make an excellent preparation to keep the hands smooth, take one-quarter ounce gum tragacanth in one pint of rain water; let stand three or four days, then add one ounce each of alcohol, glycerine and witch hazel. Keep where it will be handy, and rub on hands several times a day, after dishwashing, etc., and before going to bed. If your hands are tanned or stained, keep a preparation of four parts lemon juice and one part alcohol, using this just before you apply the smoothing preparation. It will well repay anyone who cares about the appearance of their hands.

Ink Powder.—We find that a package of good ink powder will make a pint of ink that is much better than the common cheap ink that is sold in bottles, and is cheaper, too. Dissolve it in a pint bottle and it will be always ready for use in filling the small bottles or ink wells from it.

Newark, O. MRS. D. HARRIMAN.

Bracing Forked Trees. — When an apple tree has been allowed to grow up forked there is usually a bough on one of the forks that can be made to grow into the other graft-wise, making the best brace in the world to prevent the tree from splitting down. There are many trees hereabout that have been saved in this way. [The better way would have been to amputate one of those forks when the tree was small and let the other become the tree trunk.—ED.]

Raising Rape Seed.—If W. I. Garrell, of Muse's Mill, Ky., who tells in the P. F. for May 30th of losing Dwarf Essex rape, had mowed that knee-high crop he would have had a nice lot of narrow ratio feed, and the plants would have grown again in spring and probably have yielded the seed he wanted. I have raised several crops of seed, always after cutting one or two crops of green feed. WM. H. WHEELER.

Greenleaf, Ore.

Harrowing Grain Fields.—We hear a great deal about harrowing potato fields after planting, but very little is said of harrowing grain fields after drilling. We find, however, that harrowing the grain field after drilling is a benefit in many ways. The young weeds are destroyed, air is admitted into the soil, plant food is made available, the crust is broken and the moisture retained. The footprints of the horses and the drill marks are wiped out, and the appearance of the field is improved. In the early spring when the weather is uncertain and the fields are drilled before they are quite ready, the slighted work can be made up to some extent by these later harrowings. If the weather is cool the fields may safely be harrowed six days after drilling; if warm, three or four days are usually the limit for wheat. We use for this work a 4-horse Acme harrow, setting the coulters rather flat and walking when the ground is mellow. It is best to harrow across the rows. If the ground is cloddy a light clod crusher or roller may be used before harrowing. The grain should always be drilled as deep as is safe.

Bozeman, Mont. JACOB M. KRUSE.

The Bloody Globule.—I wish to tell of the success I had with the Blood Globule Co. I sent the money to pay for the seven boxes of pills and received thanks for prompt remittance. They said my dinner set and extra prize of a watch would reach me in about 30 days. In about three months I wrote them that I had not received the prizes, and got no reply. I then wrote them that if they did not send the articles I would see if there was any law to handle them for practicing such a fraud through the U. S. mail. They gave this no attention, so I wrote the publishers of the paper from which I got the ad., telling them the way the firm was doing business. Then I cut the ad. out and enclosed it with a letter telling how they had defrauded me and two of my neighbors, and sent it to the Postoffice Department. In a short time I received my dinner set, which was about three weeks ago; and they are nice, serviceable dishes, just as they were recommended to be. HATTIE LASITER.

Belva, Ark.

To Clean Lamp Burners.—An excellent way to clean lamp burners is to boil them in a strong solution of soda in water. Boil half an hour, then take them out, wipe with a soft cloth and they will be as good as new.

Ready-to-Use Cloths. After our gingham aprons are worn out I take the side and bottom pieces, which are still good, and sew them together one upon the other so they will be two thicknesses and not ravel. We find them very nice for washing dishes, milk buckets, crocks, etc. Some are used for handling pies, bread, etc., in the oven.

Cabbage Lice.—I will tell P. F. subscribers how to get rid of cabbage lice. Save the dust that comes off the tobacco when stripping or handling it and put this on the cabbage when wet with dew.

Madison, N. C. W. A. MCCOLLUM.

Many a child has been fooled by the story of the pot of gold which is to be found just at the foot of the rainbow, and has started out to gather riches full of happy dreams.

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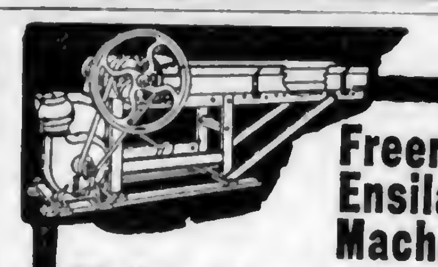

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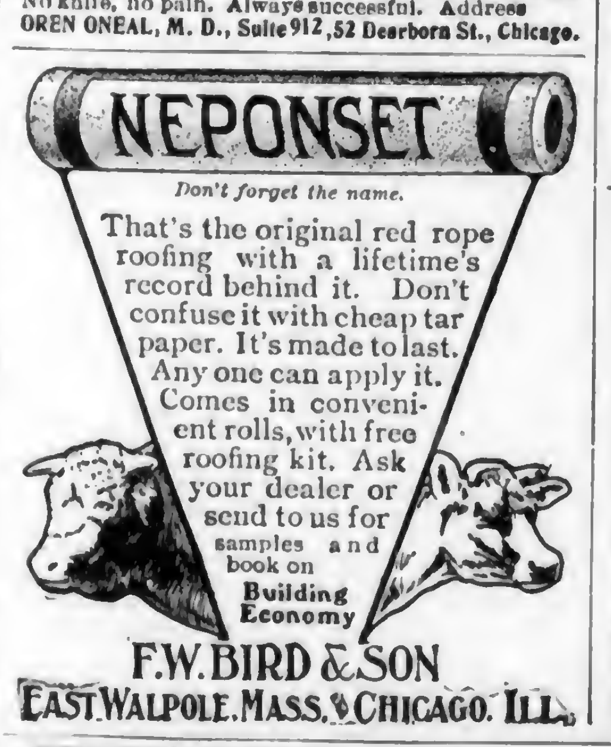

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Located in Lenoir Co., 6 miles from Neuse River. Sandy, loamy, alluvial soil, well suited to vegetables, cotton, corn and tobacco; wheat and other small grains not much cultivated. The season has been good, in the main; cotton and corn good; tobacco fair; curing about done; farmers are much discouraged about the low price of tobacco, caused by the trust; boycots are being organized against the American Tobacco Co. Cow peas good at present. Prices as follows: Flour, $4.50 per bbl.; corn, 75c. per bu.; meal, 2c.; meat, 9 to 15c.; lard, 10 to 14c.; butter, 25 to 30c. per lb.; eggs, 12½c. per doz. REV. J. F. DOSIER.
LaGrange, N. C., Sept. 15, 1903.

Present season rather unfavorable for farming; weather very dry at planting time, followed by copious rains, which have continued since at frequent intervals; the past week has been especially damaging. August 26th a severe wind blew large quantities of fruit from the trees and demolished some of the trees; many farmers had nearly their entire crop of oats shocked in the field; these were blown down, and the heavy rains have made them a total loss. W. C. SIMONS.
Arlington, Pa., Sept. 16, 1903.

We have warm, sunshiny weather here now and cotton is opening fast, and complaints of shedding its forms in some sections are heard. We have not had a drought of any length; the trouble is from the failure of two or three important matters in cotton culture which are generally neglected here in the uplands of this section. First, is the subsoiling when preparing lands; second, late, shallow cultivation, even up to the opening of first bolls, and third, I think the topping of cotton stalks is of much benefit, turning the growth all to the fruit limbs. I have tried this plan and am sure it was a paying procedure. Try it, cotton folks, and you will be satisfied with your investment. All are well here in Dixie. Fine pastures and plenty corn for the baby's mush. May the shadow of the P. F ever lengthen. D. A. SHAW.
Brandon, Miss., Sept. 14, 1903.

Our county is beautifully undulating, free from stones and nine-tenths of the land in forest, three-fourths of which is long leaf pine. There are many turpentine stills, and large amounts of turpentine are exported. We have many large sawmills, which saw the lumber, kiln dry it and plane it, tongue and groove flooring, etc., and send the products ready to put up houses. The land is productive and intensive farming is indulged in, three crops a year being grown on some land. Corn is gathered; tobacco is stripped, bulked and many crops boxed and sold at 15 to 40c. per lb. W. E. EMBRY.
Dade City, Fla., Sept. 14, 1903.

Located in Keokuk Co., 5 miles east of Sigourney, the county seat. Land rolling and very fertile. Principal crops are corn and oats; corn not so good this year, on account of much rain in the spring, causing ground to be too wet to cultivate, consequently crops were planted late. Hay crop very heavy; potatoes not so plentiful as last year. Plenty of fruit of all kinds. Have telephones and rural free delivery; good schools and churches. Weather pleasant. Farm help scarce. Prices as follows: Horses, from $75 to $200 each; cattle, 3 to 4c.; hogs, 5c.; chickens, 7½c. per lb.; corn, 45c.; oats, 30c.; potatoes, 75c. per bu.; butter, 15c. per lb.; eggs, 12½c. per doz. Success to the P. F. and readers. MRS. A. J. HOFFMAN.
R 4, Sigourney, Ia., Sept. 12, 1903.

Davidson Co., N. C., 10 miles north of Lexington, the county seat. Plenty of rain at present, but dry at planting time. Wheat threshed, yielding about half a crop of poor quality; fruit almost a failure; have had plenty of blackberries; few peaches; a fair crop of apples. Weather very hot the past week. Principal crops are corn, tobacco and wheat. Corn and tobacco looking fine. MRS. J. L. ZIMMERMAN.
Enterprise, N. C., Sept. 15, 1903.

Located in Schuyler Co. Small grain all threshed; quality good, but yield light; corn is late, owing to rains in spring; with no frost until late will make a fair crop; large acreage of cucumbers planted for the factories at Lancaster and Queen City. County becoming well supplied with telephones and rural mail delivery routes. Corn, 50c.; wheat, 65 to 70c.; rye, 45c.; timothy seed, $1.30; potatoes, $1; cucumbers, 45c. per bu.; eggs, 15c. per doz.; butter, 15c. per lb. Some land changing hands at $25 to $45 per acre. J. F. BOTTS.
Glenwood, Mo., Sept. 12, 1903.

Located in Perry Co., 6 miles south of New Bloomfield, the county seat. Land hilly, but good farming and stock raising country. Have had an exceedingly wet summer, also a very cool one. Threshing partly done. Farmers late with plowing and fall work, on account of wet weather; some few ready for seeding. Lots of live stock shipped in and out of county. Hay crop was fair; much better than was expected. Hands scarce on account of railroad improvements along the Pennsylvania lines. Oats, 35c.; wheat, 73 to 75c.; corn, 50 to 55c. per bu.; hay, $10 to $12 per ton; butter, 20 to 22c.; lard, 8 to 12c. per lb.; eggs, 18 to 20c. per doz. Corn crop looks fair. G. H. BAER.
R 1, Shermansdale, Pa., Sept 16, 1903.

Pierce county is becoming one of the great fruit counties of Washington. Several fruit growers' associations now organized, but the commission man, as usual, is conspicuous in them. Apples are 50 per cent. of last year's crop; wheat, throughout State, 75 per cent.; some yields of 60 bushels are reported, and others of 8 bushels. Prices of unimproved land in county range from $1 to $400 per acre, the latter being in Puyallup Valley fruit district. Butter, 20 to 26c. per lb.; eggs, 26c. per doz.; cheese, 14c.; steers, 3¾ to 4c.; cows, 3¼ to 3½c.; hogs, 6¾ to 7c. per lb.; all feedstuffs high; wheat and corn, $1.45; bran, $1.15; shorts, $1.20; oats, $1.20 per cwt. F. A. COWELL.
Lakebay, Wash., Sept. 10, 1903.

Located in Southern Campbell Co., Ga., 6 miles east of Fairburn, the county seat. It rained here today; we have been needing rain for several weeks past. Corn a very good crop, and fodder pulling now going past; cotton fair, though was badly withered by unusually hot and dry spell, which injured all the late growth; all shed off; cotton beginning to open. Plenty of apples; a few peaches and pears; cow peas are doing well; a great many of them planted; good pastures; stock doing well. Weather cooler today; thermometer 76 to 80 degrees. Prices: Chickens, 25 to 30c. each; eggs, 15 to 16c. per doz.; butter, 10c. per lb. I take the P. F. and like it very much. SALLIE PETERS.
R 3, Fairburn, Ga., Sept. 14, 1903.

We are having very dry weather at present; crops and pastures almost burned up; had plenty of rain the last half of July and the first half of August, which made the late corn a full crop; cotton will be about one-half crop, as compared with last year; pea hay fine; stock doing well. People having lots of sickness. Cotton is opening fast. Prices: Cotton, 13c. per lb.; cotton picking, 50c. per cwt.; corn, 50c. per bu.; cow pea hay, $12 per ton. JAMES H. PACE.
Floyd, La., Sept. 12, 1903.

Located 7 miles northeast of Gaffney, the county seat of Cherokee Co. Land very good and sells from $8 to $50 per acre, according to improvements and location. Corn on bottom is fine; upland not very good; cotton will not be over half a crop in this section, on account of drought; wheat and oats crops very nearly a failure. Prices: Corn, 80c.; wheat, $1 per bu.; butter, 20c. per lb.; eggs, 15c. per doz.; chickens, fryers, 15 to 18c.; hens, 28c.; cows, from $30 to $50; mules, from $100 to $200 each, according to size and age; pigs, 4 weeks old, $3 each. Fruit crop gone. Telephones and free rural mail delivery. Wages good. Success to P. F. P. F. CAMP.
R 1, Blacksburg, S. C., Sept. 14, 1903.

Located in Rush county, 12 miles from the county seat, Rushville. There are few counties in the country more richly endowed than Rush. It is often called the garden spot of Indiana. It was named in honor of a former citizen of Philadelphia—Dr. Benjamin Rush. The climate is considered especially healthful, the altitude being 1,000 feet above sea level. Weather sultry and warm. Will have a big corn crop; wheat and oats crops were fair. Hogs and cattle are money crops. The Rush county farmers are all right financially so long as hog cholera don't strike them. Corn, 50c.; oats, 39c.; wheat, 82c. per bu.; timothy hay, $9 to $10 per bu.; hogs, $6 to $6.30 per cwt. for best; eggs, 18c. per doz.; butter, 16c.; hens, 10½c.; spring chickens, 11c. per lb. MRS. FANNIE M. WOOD.
Falmouth, Ind., Sept. 14, 1903.

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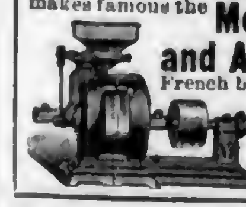

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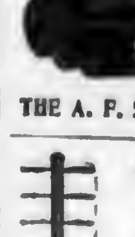

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Questions from Washington.

Curing Hay in the Barn.—J. P. Reid, Bluff, Wash., wants to know what would happen to grass hay, if it was cut and carried immediately from the field and placed in a good barn, with a ventilated board floor, and the air in the building kept at a temperature about 15 degrees higher than that outside. Well, the result would vary considerably with the maturity of the grass, the amount of sap in it from a wet season, the freedom from outside dampness, the temperature at the time it was put in and the dryness or dampness of the climate. The ventilated board floor would be an injury, unless there was such a quantity of the hay that it packed down so solidly as to practically exclude the air. It is all wrong to let air into a mow of hay with the idea of curing it, or improving it. You can mow the grass, even in the rain, and cut it directly into an air-tight silo, and if it is so packed as to exclude the air it will keep. It is difficult to do this in practice, as the hay is too loose and bulky and will hardly settle enough from its own weight, as corn does. Keeping the barn warm will help about preventing injury to the hay. A mow of hay is often hurt by the steam that rises from it, as it heats, meeting cold air above, and then the water in the steam is condensed and drops back, or is deposited on the surface, to gradually soak down and injure the hay. You have often seen the loose hay on the surface of a heating mow covered with drops of water in the morning. The warmer the air of the barn the less there will be of this. Hence shut up the barn closely as soon as you get in the last load in the afternoon and keep the air in it warm. When a mow is full some loose straw thrown on top will catch the moisture during the night and dry off in the daytime and thus save the hay some. The more mature the grass, and the less sap it has in it, and the drier and hotter the grass is, and the air, and the tighter the building, the sooner a crop can safely be put in the barn after it is cut. With conditions more or less unfavorable the hay will be more or less spoiled. If hay is hot and dry on the outside, and the barn tight, it can often be put up to advantage much greener than some people think, judging by their practice. It will heat and drive out the surplus sap and come out nice hay the next winter. But the conditions must be right for such results. Of course you will get less pounds of hay, but what you have will be more palatable, wholesome and nutritious.

Potash and How to Buy it.—Again our friend asks: "Is there any such thing for sale as actual potash? Is muriate of potash at 4 cents a pound, guaranteed 50 per cent. potash, one-half actual potash? What is the cheapest form in which to buy actual potash, bearing in mind that freight on goods from the East is from 2 to 4 cents a pound? How much potash is needed for a potato crop on land deficient in this kind of plant food? Can actual phosphoric acid be purchased? What is the cheapest form in which to buy it? I burned a small brush pile last spring and sowed alfalfa seed there afterwards. By July 4th it was about 14 inches high and green as grass. I have never seen any growing in the Western part of the State before." You cannot buy actual potash for agricultural purposes. There are four forms in which potash is commonly bought. They are wood ashes, kainit, muriate of potash and sulphate of potash. Good, unleached ashes contain about 5 per cent. of potash, on the average, but they vary greatly in quality, say, from 2 to 8 or 9 per cent. So buying ashes is an uncertain way of getting potash. If one is buying shipped-in ashes by the carload he should require a guaranteed analysis. Then send a sample to your Experiment Station and get it analyzed before settling for the ashes. It is well, however, to bear in mind that ashes contain considerable lime, and if your soil needs this, you get it thrown in with the potash. Kainit has about 12 per cent. of actual potash in it and would be no use to you, as you could not afford to pay freight on 100 pounds to get 12. Muriate of potash is about one-half actual potash, and is the cheapest form, probably, in which you can buy this substance. It is the form in which potash is most used away from the sea coast, where freight rates must be considered. Sulphate of potash contains about the same amount of actual potash as the muriate. It is preferred by gardeners for certain crops, but is not in as general use by farmers. Only careful experiments on your land can tell with any certainty how much potash a crop will pay for. Answering such questions by guess may lead friends into serious errors. The question should be asked the land itself. Then in due time you may know, and such knowledge is correct and valuable. Try different amounts on different acres of similar soil, treat all alike and measure and weigh results for years carefully. Because the application of ashes increases any crop is no proof that your land is deficient in potash. The gain may all come from the lime in the ashes. This may have been the case with your alfalfa, or may not. It is the easiest thing in the world to be mistaken, you see, in drawing conclusions from what on the surface seems certain. If muriate of potash increases your crop, why, then you may know that your soil lacks in available potash. I advise you to follow up the alfalfa raising and find out just what made it do well on that plat, and then supply its wants in the cheapest way you can.

How to Buy Phosphoric Acid.—You cannot buy actual phosphoric acid for agricultural purposes, nor can you do nearly as well in this line as with potash. You will have to pay more freight per pound. Usually the cheapest form in which you can buy phosphoric acid, perhaps, will be South Carolina acid phosphate. This contains, on the average, about 12 to 14 per cent. of actual available phosphoric acid. It is phosphatic rock ground and treated with sulphuric acid to make the phosphoric acid available. When buying this you get considerable sulphate of lime (gypsum, or land plaster) which is necessarily present and is often helpful to the land. It is the gypsum in the acid phosphate that makes the latter good to use in the stable on fresh manure in the place of the ordinary gypsum, wherever phosphoric acid needs to be purchased. You thus get the gypsum in it for nothing, to use in your stable to catch ammonia and hold it from going to waste. There are also superphosphates that contain about the same per cent. of available phosphoric acid as is found in the acid phosphate. Bone black superphosphate usually contains rather more. Look at the guaranteed analysis on the bags. Figure on the lowest amount of phosphoric acid mentioned as available. Never mind the highest figures. If you find "12 to 14 per cent." on the bag, 12 is all that is guaranteed, and all you will find, practically. From these figures and the price asked you can soon tell in which form it is best for you to buy phosphoric acid. But ask your land first, by actual experiments, just how much it will pay you a profit on. Take nothing for granted in this line. You can also buy phosphoric acid in dissolved bone. It usually contains about the same per cent. as acid phosphate, but it costs more, as there is about 2 per cent. of nitrogen in the bone. Do not buy this unless you know you need the nitrogen. It is an expensive element to buy. Most farmers should raise it in clover, cow peas, etc., or purchase it in wheat bran, linseed meal, cottonseed meal, etc., to feed out. One more matter: Some dealers may tell you that the phosphoric acid in bone is better than that from rock in acid phosphate. The truth is that available phosphoric acid all has the same value, no matter what the source of it may be.

Health Hints.—Light and Sunshine Help Make the Home Cheerful and Healthful.—We have a sitting room on the east side of the house. Large double doors open into a south and also a west room. These are usually open and the three rooms practically one. And still when we sit down anywhere it is almost invariably in the east room. The south room has gone by the name of parlor ever since the house was built. But when company came they rarely gravitated to that room, some way. And still it is better furnished and has as comfortable chairs and we have never thought of it as too good for use. What has been the trouble? Why do we naturally use the east room? Well, when the house was planned we determined that the east room should be particularly light and pleasant. It came about in this way. The east room in our old house had also been used as a sitting room, but it was dark and cheerless. It had one small east window under a porch and a small north one. So the new east sitting room was fitted up with a large bow window, occupying most of the east end. This has three windows, each about 2½x6 feet. In addition to this there is a glass door opening south onto a porch. As a result the room is very light and cheerful, unless the shades and blinds are used too much. For 20 years this has been the pleasantest room in our home, except, perhaps the front one upstairs. This upstairs room is my study. There are two large south windows, and one east one and one west one. And I have a way of letting in all the light that can come in, except in the middle of the day in hot weather. But now, the parlor is right below it, and has just as many windows, situated the same, and they are a foot longer, and it also has a glass outside door. Yes, but all of these are under a large porch that surrounds the front of the house, so the room is not as light as the one above, by any means. Among other improvements made this summer, we determined to fix that parlor so it should be the pleasantest room in the house hereafter, one that people would naturally drift to without hardly knowing why, perhaps. It will be kept warm all winter after this and open every day of the year. The main thing done to improve this south room was to build a large bow window on the front side. So now there is almost one great window, about 10x7 feet. This will let in the sunlight in winter, if it is under a porch. It will be a splendid place for flowers to grow in and I hope people may like to sit behind them in the full light and look out. We have taken pains to make it a much prettier window than the one in the east room. I never saw a bow window just like it. The projection is only the size of the window up and down; the wall above and below the 7 feet remaining the same as before. The side window openings are about 2½x7 feet, the outsides starting directly from the outside line of house and projecting enough at the other sides so the window seat in front of central window is 20 inches wide. This middle window is about 4x7 feet, divided so the lower glass is about 5 feet high; upper one, 2 feet. The side windows are divided in the middle; upper and lower glass the same length. The windows have but one sash each; are not arranged to open. This makes them look better. We can open the east and west ones and the door. The bow windows could not be arranged to open, with weights to balance them, without spoiling the chief charm of improvement. This is, almost no woodwork, or casings, between the side windows and middle one. These casings are only 4 inches wide outside, from sash to sash, and about 2 inches inside; almost all glass, without some 18 inches of woodwork between, you see. Then curtains will be draped to each side of the bow window, and over the top, so the large centre will be all open, the main glass, about 4x5, all unobstructed. There will be no blinds on this window. We are thinking of having a zinc tray to put flowers in, on this wide window seat. Then one can sit there by the flowers, in the full light, on the sunny side of the house in winter, and look straight out, or up and down the road through the side windows. The cost of this improvement was over $60, but it could easily have been made for $40, by using cheaper glass and lumber. We ordered some good lumber from the city for the casings and window seat, and what do you think it cost? Only $75 a thousand. Glad it did not take very much. It seems almost extravagant to burn the shavings from such costly boards. But it was a pleasure to work clear, straight-grained lumber once more, such as was plentiful when I was a boy.

And now let me tell you about one more improvement in the same line. Our kitchen has a large west window and door. There is plenty of air coming through in summer from east and north windows and doors of dining room and bath room and cook room.

But in a cloudy day it was not quite as light in the kitchen as it should be, particularly in the forenoon. So we are putting a glass, 25x42 inches, in the west door. It only cost $1.25, wholesale, double thickness glass, and we put it in the old door, by taking out the upper panels and centre piece, so the expense was almost nothing. It is so with many improvements that help to make the home more pleasant; it is mostly a matter of getting at them. We have a storm door outside of this west kitchen door, for winter, to save fuel, and a glass in that also, to match the one in the inside door. Not only will the air in every room in our home be practically as pure as out of doors, in winter, after this, but we mean also to have the full benefit that comes from light and sunshine.

T. B. Terry.

Fruits and Refrigeration.

COLD STORAGE FOR THE WORLD'S FAIR PERMITS WONDERFUL FRUIT EXHIBITS AND SHOWS THE VALUE OF REFRIGERATION.

Cold storage for fruits will be given its first thorough test at any international exposition at the World's Fair, at St. Louis, in 1904. An immense cold storage warehouse and refrigerating plant will be in operation on the grounds and all tests will be of the most practical nature. Fruit growers from the most remote part of the United States will be able to show their choicest products and to place them on the exhibit tables in perfect condition. The wonderful strides made toward perfection in refrigeration make possible this long desired result. The strawberry grower in Oregon may pick his berries, ship them half across the continent to St. Louis, and when placed on exhibition they will appear as fresh and fair as they were when plucked from the vine. Apples harvested this fall in widely separated States will be assembled in St. Louis and a year hence, when hundreds of thousands of visitors throng the beautiful City of Knowledge, the fruit will be shown and it will be seen that it retains its beautiful colors, its texture, aroma and flavor. Since the Columbian Exposition at Chicago ten years ago, mechanical refrigeration has advanced in importance by leaps and bounds. It has revolutionized many industries, and no class has received greater or more direct benefits than has the fruit grower. Cold storage has solved the overstocked market problem, and the "gluts" of ten years ago, then of such frequent occurrence with perishable fruit, are scarcely noticeable today.

Frederick W. Taylor, Chief of the Department of Horticulture and Agriculture for the World's Fair, and Prof. John T. Stinson, Superintendent of Pomology, are planning to assist the commissions of the various States, and have obtained the uniform rate from all the cold storage houses of St. Louis of 50 cents per barrel for the storage of apples from October to May. The Department will receive all consignments of exhibits and will see that they are properly handled. The Exposition management, appreciating the importance of the cold storage industry, has established the Bureau of Refrigeration and is erecting the Refrigerating Building, 320x210 feet, with a model cold storage warehouse of more than 300,000 cubic feet capacity. As the Exposition will positively open on April 30, 1904, and the space in the Palace of Horticulture assigned to each State must at all times be covered with fresh fruits, the months of May and June next year will necessarily witness the display of apples kept in cold storage. As it has been demonstrated that apples may be kept perfectly in cold storage for two years it is reasonable to assume that during the first two months of the World's Fair, and longer, if need be, perfect specimens of fruits will be daily exhibited.

Idaho is one of the many States that will make a complete display of apples and orchard fruits. Prof. Stinson, in conversation with Clarence B. Hurtt, executive commissioner from Idaho, advised that all fruits designed for exhibition should be carefully picked by hand. Each apple should be wrapped in tissue paper, with an outside wrapper of heavier paper. For the second wrapper a paraffine paper is most desirable. Fruit for exhibition is better kept when packed in boxes of about 50 pounds capacity than in barrels. It is frequently the case that fruit in the centre of a barrel ripens too much before it becomes cooled. A box of thick material is better than thin, for there is less danger of the fruit becoming bruised. Again, in removing the apples from cold storage to the exhibit rooms the box is found to be much the more convenient package. With careful handling the apples should be packed in packages in the orchard, taken as rapidly as possible to iced cars and sent to St. Louis, where the arrangements are so perfect that there is no chance for the fruit to become heated when it is transferred from refrigerator cars to the permanent cold storage warehouses. Idaho is collecting splendid lots of Jonathan, Grimes' Golden, Rome Beauty, Ben Davis and Winesap apples. The Jonathan in Idaho, as elsewhere, is a favorite. Its conical shape, its high color, fine texture and unrivaled flavor attain perfection in Idaho orchards. Grimes' Golden, with its deep yellow color, flat form, and delicate flavor is being widely grown. Rome Beauty grown larger and with its red streaks makes a fine appearance. The Ben Davis, of unrivaled appearance but disappointing in texture and flavor, is well adapted to Idaho's soil and climate. The Winesap maintains its place among winter apples.

Many growers hold to the opinion that apples keep better if they are picked before they are fully ripe. Tests in cold storage show this to be erroneous. Fruit picked before it is ripe, before it is fully grown, is frequently damaged by scald, and it is likely to shrivel somewhat. While the fruit should be ripe it should not be "dead ripe," for then even cold storage will not avert decay. While cold storage greatly prolongs the life of the strawberry, its extremely perishable nature will not permit its being kept anything like the length of time that apples or stone fruit may be kept. Two weeks are considered as the limit, and this may be only attained on especially firm varieties. Chief Taylor is advised that Missouri strawberry growers are making elaborate preparations for a great strawberry exhibit next year. In Missouri some of the leading varieties are the Haverland, Bubach, Warfield, Gandy and Aroma, the last mentioned probably the favorite. It is large, firm, of high color, possesses a delightful flavor, and, as its name indicates, a splendid aroma. It is a late berry and is at its best in the latter part of May. Its yield is enormous, many Missouri growers having harvested as many as 400 crates of 24 quarts from a single acre. Strawberries seen at the World's Fair will be handled with even greater care than apples. Only the choice fruits will be selected. The exhibitors are advised to place on the bottom of the box a layer of cotton and put the berries on this, in layers with cotton between the layers. This will prevent "bleaching," and when placed in cold storage decay will be arrested for a remarkable while, and the natural appearance of the berry and its flavor retained. If the temperature of the cold storage is kept at the proper degree, the berry, when taken to the warm air of the exhibit room, will last as long, almost, as if taken fresh from the fields.

New York grape growers have signified their intention of making a splendid display of grapes and they hope with the Exposition's refrigerating advantages to have grapes on exhibition every day of the fair. Catawbas grown in New York in 1903 will be kept in cold storage and when the fair opens it is confidently predicted that they will be placed on the tables in as perfect a condition as they were when cut from the vines. Growers of Concords will have fresh exhibits every day from the opening of the Concord season until the close of the Exposition.

Peaches, too, are given a new lease on life by cold storage. Experiments have shown that the delicious fruit may be kept in perfect condition for two and three months. And so it is with plums, cherries and many other fruits.

Perhaps the most striking example of the advantages of what cold storage will accomplish will be shown by an exhibit that will come all the way from South Africa to St. Louis. Chief Taylor has awarded space in the Palace of Horticulture to the managers of the farm of the late Cecil Rhodes in South Africa. Fresh fruit from that distant point will be shipped to St. Louis each week, the fruit being under the protection of the most approved refrigeration at all times. This feat has never been attempted at any former international exposition, but the South African fruit raisers have experimented and are sanquine that they can place their fruit on the tables in as good condition as can the American fruit growers. Of course, the Refrigerating Building will be of importance to industries other than horticulture. There will be an ice-making plant of 300 tons daily capacity. All modern methods of refrigeration will be shown. Pipes will lead from the building to other buildings and cooled brine will be forced through the coils of pipe and the temperature of rooms reduced many degrees. In some of the buildings using this pipe line refrigeration may be seen some very useful and interesting applications of refrigeration, such as making ice cream, freezing ice for a skating rink, wherein daily snowstorms may be seen; freezing snow slides for Norwegian skeeing or tobogganing, cooling drinking water, for refrigerators, refrigerating an Esquimaux village and cooling entertainment halls, theatres and restaurants for the comfort of visitors during the hot weather. Here the visitor to the Exposition may rest and be dined and entertained during the hottest summer day in an atmosphere as cool and exhilarating as that of the mountains or seashore.

John T. Stinson, Superintendent of Pomology for the Louisiana Purchase Exposition, has devoted his life and years of intelligent service to scientific and theoretical farming. He learned the practical phase of the work in his youth on a farm in Western Iowa, and there laid the foundation for the education in scientific farming which has already done much to advance the standard of agriculture and horticulture in the great Southwest. Mr. Stinson is a native of Indiana, and in early life his parents settled in Western Iowa, where he was reared. He entered the Iowa Agricultural College, at Ames, Ia., and was graduated from that institution in 1890. He was elected Horticulturist of the Arkansas Agricultural Experiment Station in 1891, and six years later he was elected professor of Horticulture in the University of Arkansas and Horticulturist of the Experiment Station. He resigned these positions when, in February, 1900, he was placed in charge of the Missouri State Fruit Experiment Station, as Director. His work in the institution at Mountain Grove, and the practical experiments conducted for the benefit of the fruit raisers, has resulted in the saving of thousands of dollars. The value of spraying orchards and destroying the insects that were ruining the fruit crops is well known. Prof. Stinson, from the side tracks at the railway stations, on a car provided for the purpose, illustrated the process of spraying to prevent bitter rot and other diseases. This he followed up with lectures that were attentively listened to, and by distributing treatises on the work which were carefully read by the orchardists. Prof. Stinson is a life member of the American Pomological Society, and is also a life member in many State horticultural societies. Ever since work on pomology was begun at the Columbian Exposition at Chicago, Prof. Stinson has devoted a great deal of time and energy to the development of this branch of industry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Improving the Texture of the Soil.—J. T. Roraback, Kansas City, Mo.—"I have a home garden 30x100. The lower part is clay and bakes badly. I intend to cover this with 4 to 6 inches of black earth this fall. Will it be well to have a few loads of sand hauled to mix with this earth? If so, how many yards of sand should be used? Tomato vines grow very profusely. Is it advisable to thin out the leaves to let sunlight in? I am told that melons do better growing with some grass or weeds than if kept clean. Is there any truth in this?" On a small garden it will pay you to haul sand enough to lighten the soil. Coal ashes will also help do this, though of little, if any, use as a fertilizer. To have much effect in lightening the soil you will have to use the black soil and sand very liberally, say enough to cover the plat three inches deep. In a small garden like yours we would always plant our tomatoes about 2 feet apart in the rows and train to a single stem, pinching out all side shoots as they appear. Tie the stem to a stake. Do not thin the leaves to let sunlight in, as that would scald the fruit. We find it an advantage to have melons shaded when ripening, and so sow peas among them when the vines have run so as to interfere with cultivation.

Cow Peas in South Dakota. — G. S. Scovel, Hot Springs, S. Dak. — "About two years ago you advised us through the P. F. not to try cow peas, as we were too far North. After some experimenting in previous years we this year tried the Black Eye cow pea from Wm. Henry Maule. Planted May 19th, we gathered ripe pods August 31st, and at this writing, (September 7th) the few vines we have are loaded with ripe pods. These we will try again next year." We are glad to hear of your success with the Early Black Eye pea. In North Carolina we have grown two crops in one season on the same land from these, as they mature here in sixty days. As a forage crop they do not make sufficient growth to be profitable, but it would seem that you can make a profitable pasture crop with them to tide over a drought, for they will resist dry weather better than most other things used for this purpose. Then, too, seed grown in your climate should give earlier results than those from further south, and while the Southern peas can never, with you, be of much value for hay, they can be made of use for pasturage. Then the Black Eye is a fine table vegetable, and we prefer them to the white beans, as they have a flavor peculiar to themselves. A black soup made of these, with plenty butter, is a favorite with us.

Disease in Cow Peas. — G. H. King, Leedstown, Va., writes that there is a serious disease among the cow peas in that section. Plants sent to Mr. Koiner, the Commissioner of Agriculture for Virginia, were forwarded to the plant pathologist at the Department of Agriculture in Washington, who decides that the trouble is the same as that affecting cotton and watermelons in the South, and known as the "wilt disease." It is caused by a minute fungus that infects the soil, and the only way to fight it seems to be the getting of plants that resist its attacks. They have found here and there plants of cotton standing healthy among dead plants, and from these they are saving seed with the hope of getting resistant varieties. Mr. Koiner writes to our correspondent that the Iron pea has been found to resist the wilt disease, and he wants to know more about this pea, as the pea crop is an important thing in his part of Virginia. We have never grown the Iron pea. It is mainly used in South Carolina, and we hope that some of our South Carolina readers will favor us with some account if its peculiarities. We have heard that its seed resists the cold to such an extent that it is commonly sown in late fall. Whether this is true or not we are unable to say, and hence will welcome further information. Our Virginia correspondent says that the disease appeared in land that had had no peas on it for twelve years, so that it would seem that seeking fresh land will hardly be a preventive.

Harvesting Buckwheat.—W. D. Troy, Centreville, Md.—"How do you harvest, cure and thresh buckwheat?" Buckwheat does not all ripen at once, and when the main part is mature it is cut when damp with dew, since the ripe stems are brittle. Then gather into bunches without binding and set up on end to cure. Thresh right from the field and at once winnow out the chaff to prevent heating. Put the grain where it can be moved and stirred until dry.

◆

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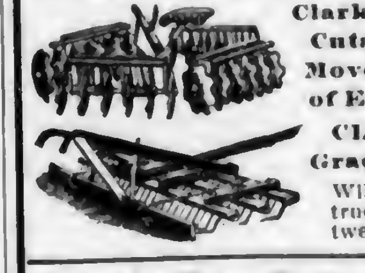

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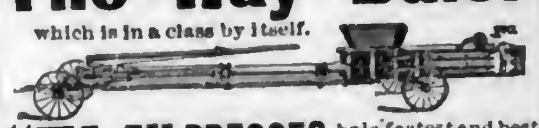

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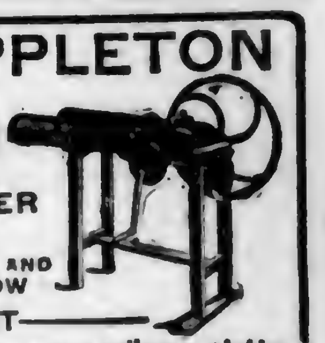

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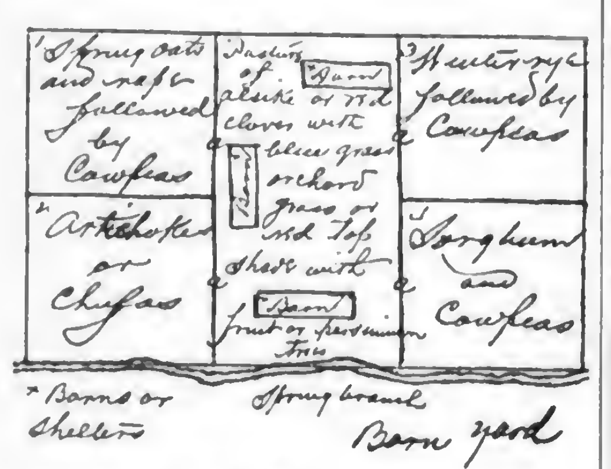
Grazing Crops for Hogs. Part 2.

PROF. A. M. SOULE.

PLAN C.—*The Soiling System in Conjunction with Permanent Pasture.*—This plan contemplates the construction of the hog barns in a permanent grass lot. In some sections of the country this may consist of blue grass, orchard grass and red alsike or clover. In the far South it would have to be laid down in Bermuda grass in order to withstand the hot summer sun. The hog barns should be constructed on rising ground, and a very cheap form of barn will answer every purpose in our warm climate. A large barn may be constructed with farrowing pens and yards in the rear for exercise in bad weather, or the individual farrowing pen may be used, as deemed best. Plenty of shade should be provided in this lot, while a spring branch running along one side will provide an abundance of pure, fresh water. It should be protected in the manner described under Plan B. The area devoted to permanent pasture will furnish some picking at all seasons of the year, especially in the early spring and the late fall. It should be supplemented by seeding Section 1 to spring oats and rape. Do not sow the rape until the oats are well up. If the oats can be seeded the first of March, so much the better. The crop should furnish grazing from May 15th to July 15th, and should then be followed by cow peas to be pastured in the late autumn, say, October and November.

Plan C Soiling system with permanent pasture


1 Spring oats and rape followed by Cowpeas
Pasture of alsike or red clover with blue grass orchard grass or red top shade with fruit or persimmon trees
Barn
3 Winter rye followed by Cowpeas
2 Artichokes or Chufas
4 Sorghum and Cowpeas
* Barns or Shelters
Spring branch
Barn yard

x Gates into lots

Section 2 should be devoted to the cultivation of artichokes and chufas, planted as previously described, and should furnish pasture from December to March.

Section 3 should be sown in winter wheat or rye on the first of September, and it will then be ready for fall grazing by November and will furnish a lot of food all through the winter. It is often well to sow a bushel of vetch with the winter cereals. About May 1st the land should be broken up and seeded to cow peas or soy beans, which can be pastured in August and September.

Section 4 should be seeded to sorghum and cow peas as early in the spring as possible, and as already described. It should furnish grazing from June 15th to October 15th. The crops on Sections 1, 3 and 4 will maintain from 4 to 6 hogs per acre, and on Section 2, from 8 to 10 hogs.

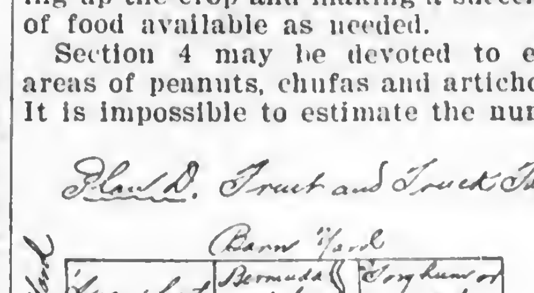
PLAN D.—*For a Truck and Fruit Farm.*—This plan differs from C in that Bermuda sod is used in the place of the blue grass. The Bermuda can be disked up in the early fall and seeded to hairy vetch, which will furnish considerable winter pasture in a Southern climate. The buildings may be arranged as suggested under Plan C, only in this instance the spring branch runs directly through the field.

Section 1 should be seeded to equal areas of turnips, sugar beets and pumpkins in the early spring, which will furnish an abundance of food from September until the first of the year. The area devoted to the kitchen garden being cut out of the corner of this field makes all the waste from that source available as supplemental food for the hogs. The orchard should be sown in cow peas in the early spring for the purpose of enriching and shading the land, and will furnish plenty of grazing for the hogs in late summer. They should have the run of the orchard at all seasons in order to destroy the insects which infest the fallen fruit.

Section 3 should be sown in sorghum, millet and cow peas, either singly or in combination, for the purpose of balancing up the crop and making a succession of food available as needed.

Section 4 may be devoted to equal areas of peanuts, chufas and artichokes. It is impossible to estimate the number of animals which can be maintained under this system, as the amount of fruit in the orchard will vary in different seasons. About four to eight hogs, however, can be carried nicely on this system per acre when Bermuda and vetch are available. The system has many advantages, as it enables the utilization of the waste fruit and garden truck which is generally permitted to decay on the average farm.

Plan D. Fruit and Truck Farm


Barn Yard
Hog Yard
Sugar beets turnips and pumpkins
Kitchen Garden
Bermuda sod and vetch
Hairy vetch in early fall
Sorghum or millet and Cowpeas
Orchard Sow Cowpeas
Peanuts Chufas Artichokes
Spring branch

1 Barns or shelters
2 Gates into lots
3 Path from house to hog pasture

PLAN E.—*For Summer and Fall Grazing.*—This plan contemplates the purchase of hogs in the early spring or winter for summer and fall grazing and could not be utilized to advantage on a farm where two crops of hogs were raised a year. It will require about two acres of sweet potatoes or cow peas to furnish as much food as an acre of chufas or peanuts. The sweet potatoes should be slipped and planted in the early spring and pastured any time after September 15th. The cow peas should be planted about the 15th of May and will furnish pasture during October and November. The chufas can be pastured any time after September 1st, and the peanuts after December 1st. This plan contemplates the maintenance of eight to ten hogs per acre. They would need the run of a clover field during the months of May, June and July. The crops mentioned furnish an abundance of food after that date.

PLAN E—For Summer and Fall Grazing only.

1 ac. Cowpeas	2 ac. Sweet Potatoes
1 ac. Peanuts.	2 ac. Cowpeas

TEMPORARY FENCES.

Temporary fences for hog lots may be constructed in a variety of ways. One of the best of these is in the form of a portable hurdle. The outside fence of the permanent lot may be constructed of boards, though timber is now generally too dear to permit of its utilization for that purpose, and nearly all the companies manufacturing fence wire now make a type especially adapted for the construction of fences for hog lots. Make the fence permanent whenever possible, but when this cannot be done, a portable hurdle becomes a necessity. These can be constructed easily and cheaply and are a great convenience on every farm.

FINISHING "GRAZED" HOGS.

Hogs dropped in March or April should weigh from 200 to 300 pounds at six to eight months when run on pastures in which the cereals and clovers predominate in the early spring, and the leguminous and grain-producing crops and peanuts and chufas in the fall season. When kept on grazing crops supplying but a limited amount of grain, it will generally be advisable to feed the hogs about one ear of corn per head per day. This will keep the flesh firm and help to balance up the ration and keep the hogs in a good condition. It will not take more than 10 to 15 bushels of corn to make the hog. When the hogs are run on pastures in the winter time, they should receive a slop made of shorts, bran, wheat middlings, barley, etc., enough to balance up the ration which at that time of year will either consist of some winter cereal or artichokes and chufas. Few of the hogs grown on the forage crops or pastures mentioned will kill well unless put in a close pen for from two to four weeks at the end of the grazing period and finished on corn. Corn imparts the desirable firmness and makes a fine white fat which nothing else gives, and it is wise for the feeder to bear this in mind, as his hogs will not only kill better, but present a more attractive appearance and command a higher price when placed on the market.

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Warts.—I have two cows with their teats full of warts. Please tell me what will take them off. D. J. HOFFMAN.
Nicholson, Ky.

Rub affected parts twice daily with castor oil. Warts having small necks may be safely snipped off with scissors; then touch bleeding bases with lunar caustic pencil.

Sick Cow.—What can I do for my cows, and what is the matter with them? They get weak in the back and their eyes sink in their heads, and the ends of their tails peel as though the bone was eaten out. They say around here that it is worm in the tail, and that it is all through the South. They eat well and are on pasture, and I give them bran. What can I do for them, as it is fatal if you let it run too long. R. BAUMGARTNER.
Vienna, Md.

First, as often stated in this department of the P. F., there is no such disease as worm or wolf in the tail, although this ignorant belief is still common in the Southern States. It is evident that the cows have some slow-acting disease, such as tuberculosis, and we would advise having a typical case tested with tuberculin. If tuberculosis is not present then you have a type of malarial or swamp fever commonly seen in low-lying districts or on wild pastures. A complete change of pasture and food is indicated, in addition to which we would advise giving a drachm of quinine twice daily in two drachms of tincture of iron, and then mixed with two ounces of whiskey in a pint of oatmeal gruel and given as a drench.

Agalactia.—I have a fine Guernsey cow that brought her second calf Sept. 11th, but has failed so far to give any milk. She is in good condition, eats well and is very fond of the calf. She gave milk up to within ten days of calving. W. S. COLLINS.
Centreville.

Cow should have been dried off for six weeks prior to calving. Give her a pound dose of epsom salts in two quarts of warm water, and follow twice daily with two ounces each of powdered fennel-seed and anise-seed in a pint of thin oatmeal gruel or flax-seed tea. Feed bran, flax-seed meal and other foods calculated to cause a flow of milk. Rub the udder well twice daily with brandy or alcohol.

Impaired Breathing. — What is the matter with my mule and how can I cure it? Last spring the first thing I noticed anything being wrong with it it was breathing hard, as though it had something in its windpipe, and it has been breathing that way ever since. Sometimes it looks as though it would choke. It has not coughed any nor had the distemper so far as I could tell. It has been running on pasture all summer and is in good condition. It had the pleurisy some four weeks ago, but seems to be well of that now. JOHN B. CONDRIN.
Greenwood, Ark.

There is apparently some obstruction of the larynx, which usually follows a badly treated case of strangles or sore throat. In some instances there is a polypus in the nostril, and this should be looked for. Sometimes, too, the difficulty is due to a deep-seated abscess near the larynx, and this may be successfully operated upon by a qualified veterinarian. If nothing of the kind is found, give one ounce of glyco-heroin three times daily and wet all food. Sometimes in addition to this treatment, when the throat is known to be the seat of the trouble, it helps matters to apply a smart blister from ear to ear. The prescription for such blister has been given many times in this department.

Tumor.—I have a young mare which I bought a few months ago, which never pulled very hard, but by the way of breaking her in we worked her three abreast in the cultivator on summer fallow. Last month we noticed a lump on breast just above point of shoulder, about the width of a man's hand, eight inches long and about one and a quarter inches thick. In a short time it disappeared, while animal was idle for a short time. Yesterday we put her to work again and the lump came on again. She flinches when we touch it: it feels as though there was air in it, especially towards the in, or neck, side; the other side feels a little harder.
Klumb, Ore. J. SIEGMUND.

In most of such cases pus will be found present deep down under the muscle of part involved, so that an exploring needle should be introduced, and if it discovers pus a free opening should be made through which pus is to be evacuated and the cavity then packed daily until healed with oakum saturated in a mixture of equal parts turpentine and raw linseed oil. We cannot advise making a deep incision at once in this case, as we cannot be sure without examination that pus is present. If you cannot find pus in the way indicated better wet part three times daily with a mixture of two ounces of tincture of iodine and six ounces of extract of witch hazel.

"High Flanker."—I have a 3-year-old stud and his left testicle was swung about one year ago, and it is normal size; but his right one is not swung and at times the way he stands can plainly see the right testicle, and it is not normal size and seems soft, and feels as if something had grown up that prevents it from being swung. If he has ever been hurt I do not know of it. He is fine stock and would like to keep him for breeding, but parties tell me he will not be safe with only one testicle swung.
Bowie, Tex. W. A. WILLIAMS.

Horses thus affected are termed "high flankers" by veterinarians, and should not be sold as sound stallions, as the parts are imperfect, and even if a stallion gets foals there would be a tendency to similar blemish in such progeny. As a rule, such horses breed well enough, but they are an objection for the reason just stated. Nothing can be done to bring the testicle down into its proper place other than good feeding and ample exercise.

Warts.—Please tell me what to do to take warts off of a heifer. One came on her neck and then it spread until it is at least seven inches square. She is on pasture.
Boyds Creek, Tenn. GEO. H. MCNUTT.

When warts have a narrow neck they should be snipped off with scissors, or ligated tightly with cord, horse hairs or a small rubber band. Where there is a mass of warts good results follow the daily application of glacial acetic acid, or wetting with Fowler's solution of arsenic. In persistent cases where warts tend to grow again when removed paint with nitric acid or strong solution of nitrate of silver, or even apply carefully a little caustic potash or terchloride of antimony.

Garget.—I have a fine cow. Last year one front teat gave bloody milk for a while and then dried up; this summer she brought twin calves and the damaged teat was all right. Calves are two months old. Last week another teat got sore; cake formed in udder and almost checked flow of milk from all teats. Her milk veins were enlarged. She eats heartily and appears to be well.
Shellsford, Tenn. I. H. COUNLISS.

At outset of such an attack give her a pound of epsom salts, and one ounce each of ground ginger root and powdered saltpetre in two quarts of warm water and follow with half an ounce of saltpetre in water once daily. Foment udder continuously with hot water and then rub well with a lotion composed of one ounce of fluid extract of belladonna leaves, two ounces of fluid extract of poke root and five ounces of soap liniment, which may be applied twice daily. Avoid letting cow sleep on cold, wet or hard ground or on cement floor in stable. Also avoid all sudden changes of food.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Harvesting Cow Peas and Soy Beans.

The season of 1902 had somewhat cooled my enthusiasm in regard to the possibilities of soy bean growing. It was an abnormally bad season for that crop at the North, especially where grown for the first time, on soils not yet inoculated with the particular nitrogen-producing bacteria. The present season also started in bad, but has considerably improved, so that there may be a chance to harvest a fair crop of soys. About this part of the business, which has thus far presented some difficulties, Dwight S. Dalbey, of the Illinois Experiment Station, says:

"Where cow peas or soy beans are left for seed they should be allowed to fully develop, but not to get so ripe that the seed shatters in handling. It is best to cut them slightly green and then allow the seed to get perfectly dry before threshing. Formerly beans and peas were picked by hand, but now the work is done almost exclusively by machinery. The beans or peas may be left in this windrow until threshing, or piled up in small bunches with a fork. After drying one day or more the bunches should be turned so that all will dry out thoroughly. If drying weather prevails, they will become ready for threshing or storing in barns without turning, but, if the weather is unfavorable, the bunches must be turned frequently to prevent the beans in the pods resting on the ground from becoming damaged. Wet weather does not seriously injure the crop (especially the soy bean) provided the pods are not allowed to rest on the wet ground too long at a time. When thoroughly dry the vines are stored in barns or threshed immediately. The threshing is best done by specially constructed machines in which the cylinders are reduced in speed, and the rest of the separator maintained at ordinary speed. A bean thresher made especially for the purpose is best, but a wheat separator may be used with all blank concaves and running as slowly as the machine will permit and not clog the shakers. After threshing, care must be taken in storing the seed, particularly the soy bean, as it is so rich in oil that any external moisture sets up a fermentation which may produce heat enough to cause injury to its vitality. The seed should be thoroughly dry before threshing and may be stored in loose woven sacks or bulked in bins if tile or brick are used. The expense of growing, harvesting and threshing cow peas or soy beans, according to the Kansas Experiment Station, is about 55 cents a bushel."

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Talks on Timely Topics.

The Wheel Hoe in the Onion Patch.—Even as late as this we have still considerable use for the wheel hoe. The patch of supposedly hardy onions (Portugal, New Queen or Barletta, Brown Australian, White Pearl, Prizetaker, Beaulieu's Hardy White) needs close attention to keep the weeds in check, and the surface loosened up. Seed of these onions was sowed early in August, on the spot where we grew our fine Brandywine strawberries, and where the plants and weeds had been turned under with the plow after fruiting. I had used plenty of seed, as I want the plants rather thickly in the row, and a full stand without breaks, and the plants did come up nicely and have made a fairly good growth. Beaulieu's Hardy White Winter onion (old seed) failed to come, and I have had to re-sow the row or rows, and hope to get the plants started in time to winter all right. But in order to keep the plants moving along, and the weeds in these times of frequent rains kept down, I run the wheel hoe through the rows as often as the weather conditions allow, *i. e.*, as often as the soil gets dry enough on the surface to give the wheel hoe a chance for good work. Of course, there are many other spots in the garden, especially among the late summer radishes, the winter radishes, spinach, lettuce, etc., where the assistance of the wheel hoe is desirable if not indispensable. In regard to the wheel hoe, I feel exactly like Mr. Cheever, who in his familiar talks (N. Y. Farmer) says:

"The most indispensable implement I have is a 'Planet Jr.' hand cultivator with its several attachments, including plow, scuffle hoe, rakes and other extras. Without an implement of this kind I should be tempted to give up gardening. I frequently use the plow in early spring among the currant bushes to loosen the surface, destroy any weeds that appear and to cover lightly fertilizers sown broadcast. I also use it to make furrows in which to plant peas, beans, corn and many other seeds. I also use it for covering the seeds when planted. After covering, the implement being turned over, the wheel in front makes a very fair roller for pressing the earth over the seeds. To make a nice surface for the seeds to come up through I smooth off with a garden rake or small hand weeder with wire teeth. This weeder is sometimes used later to break the crust and kill sprouting weeds."

Really I do not see how I could get along without my "Iron Age," or a "Planet Jr.," or some other first-class wheel hoe, although I believe I would try to find means to do a little gardening anyway. Surely, the wheel hoe is a great help to us all summer and fall.

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Current Comments.

Ginseng Prospects. — Bessie Fairchild, Vanderbilt, Pa.—"Please give me some information about ginseng culture. Do you think it would make a paying crop to be cultivated?" A great deal has been said and written about ginseng culture during the past few years, and great claims have been made regarding the profitableness of the crop. I have no doubt that it is possible to make the culture of ginseng very profitable, especially so long as seeds and plants can be sold at high prices. The demand for such seems to have been larger even than that for the dried root. It must be kept in view, however, that the plant, even under most favorable conditions, is an extremely slow grower. You can raise seeds and plants within a few years' time; but it will take five or more years at least to produce the commercial dried root. The plant is also very particular as to soil and surrounding conditions, and needs shading and possibly other special treatment. For those, however, who can supply the right conditions and surroundings, and have time to wait for returns, ginseng may prove a profitable crop for limited areas. The whole industry, however, is still in an experimental stage.

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Notes from a Carolina Garden.

Our American persimmon is one of the neglected fruits that should receive more attention than it does. There is a notion that frost is needed to ripen the fruit. This has arisen from the fact that many varieties are late in ripening. But I have one tree now loaded with fruit which was perfectly ripe and sweet the first week in September, with frost months away. Another tree, standing close by, is full of perfectly green fruit. It is time that the natural varieties of this fruit should be investigated, for there is a very great variation in size, quality and season. Those now ripe are as sweet and free from any roughness as those that ripen after the frost comes, and these tend to make the persimmon season longer. The Japanese persimmons, of which I planted 500 some years ago, are well suited to our climate here, and the fruits are immense. Our trees are of the Hyakume variety, and the fruit is as large as a large apple. But in quality the smaller native persimmon is better.

Passing a bed yesterday of the old Begonia Evansiana, loaded with a mass of its rosy flowers, reminds me to say that it is rather surprising that this hardy begonia has been so much neglected. The tubers are perfectly hardy anywhere, for I have had them where the mercury fell a good many degrees below zero without any hurt to the tubers. Years ago I grew them in beds with tulips. The begonias appeared just as the tulips were failing, and when the leaves of the tulips were cut away the begonias soon made a mass of foliage, and in the fall a mass of bloom.

The dry weather is hindering the germination of the first-sown lettuce, and it is now time for the second sowing to produce plants for the frames to head in January and February, and we are waiting anxiously for rain. The Florida storm was due here yesterday, according to the weather reports, but it seems to have played out, and the sun still beats down on the parched ground. We have been studying the new cannas. In Washington a few days ago, we saw a bed in one of the public squares planted with that splendid canna, Mrs. Gray, and made a note to plant a bed of it here, and border it with the white canna, Mont Blanc, which we saw at Briar Crest, the beautiful place of Wm. Henry Maule, near Philadelphia. Mrs. Gray makes a tall growth and great heads of scarlet suffused with gold, and the dwarfer white one will make a splendid edge for it.

The hardy oranges set a wonderful crop of fruit this season, and are now loaded with the golden fruit. It is a pity that the oranges are not edible. At the Department of Agriculture in Washington they are experimenting with crosses of this orange on sweet ones in the hope of getting an edible variety that will be hardy outside the orange belt. A grower in Louisiana claims to have produced a variety that has good fruit and will stand zero weather. How he has proved this I cannot say, for they certainly do not have zero weather in Louisiana.

We have been greatly interested in the effect of near-by plants on the quality of the vegetables produced by others. Last year we had two rows of peppers, one the Tobasco, and the other the Ruby King, side by side. The Ruby King is usually a very mild pepper, but last year it was entirely too hot to be used for stuffing. This year I planted them away from the Tobasco, and they are as mild as usual. It was evidently the pollen from the hot little Tobasco blooms that affected the Ruby King. We grew also the Giant Chinese, but do not think it equal to the Ruby King. It is far less productive and not of as good shape for stuffing. It is, however, fully as mild and sweet as the Ruby King. We will discard it in the future. Anyone who wants hot pepper sauce can get an abundance of it from the Tobasco. It is wonderfully productive of its little pods, and grows here over six feet tall. My family decided that it was entirely too much of a good thing, too hot for use.

The dry weather is retarding the second crop of Irish potatoes and it will take a late fall to make a crop. We once made a crop, however, from potatoes planted September 13th, so we do not despair of a crop this fall, though the tops are yet small.

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There is such a thing as forbearance ceasing to be a virtue even in the case of one's stomach. There is no question but that some stomachs will stand a great deal more wear and tear and abuse than others, but they all have their limit and when that limit is reached, the stomach must be reckoned with as sure as fate. The best way and really the only effective way to treat your stomach when it rebels is to employ a substitute to do its work. This will give the weakened and worn-out organ an opportunity to rest and regain its strength and health.

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S. Freeman & Sons Mfg. Co., Racine, Wisconsin.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Rose of Sharon.

The hardy hydrangea is perhaps the most prominent shrub in bloom in many gardens in the months of August and September, because of its immense heads of white flowers. But close to it in prominence is the well-known Rose of Sharon, or althea as so many call it. And indeed, it is more valued, in a way, because of the great number of varieties of it both in single and double kinds. The prevailing colors are white, red, pink and rose and intermediate shades. There are early and late sorts, so that from the first day of July until the close of September, there are some sorts in flower. The Rose of Sharon is easily propagated from hard wood cuttings. Cut off the shoots in winter, cut them into lengths of nine inches, bury them up in soil in a cold cellar, and, when spring comes, set them out of doors buried half their length. Almost every one will root. As this shrub flowers from the shoots it makes in spring, a good pruning down every winter is an advantage to it, as the more young shoots it makes the more flowers result.

Plant Bulbs.

In early spring almost before freezings are over crocuses and other bulbs are in flower, and how they rejoice us all, succeeding the ice and snow of winter as they do! To have bulbs to do their best they should be in the ground well before freezing weather comes. The object is to have them make a good lot of roots before cold finally settles on them. After planting them cover the ground above them with two or three inches of long manure. It keeps frost out and the manure is valued by the roots for food. It is true that the bulbs largely contain sufficient to produce good flowers without manure, but with rich food the leaves become of a brighter green, adding much to the good appearance of the plants. If a few bulbs are set in the shelter of a house or fence the flowers are in view much before those in more open places. A few crocus bulbs so placed delight one in February, if a few warm days come, and should a freezing night or two come when their buds appear, an inverted flower pot saves them.

Hyacinths precede tulips in spring; and in planting these bulbs it must be remembered not to place them where other flowers have to be planted before they are out of flower. Hyacinths are over with us before planting out time for geraniums comes, but tulips are not. When florists grow bulbs for forcing for flowers they are potted or placed in boxes in fall and when winter comes they are entirely covered with ashes or spent hops from breweries. This keeps frost out, and then, as the roots are free from frost, the plants start to grow soon after being so treated. As winter progresses and the flowers are wanted the pots or boxes are taken indoors and the plants having started growth it is not long before the flowers appear. A dozen or so of pots so treated, brought indoors in succession, would insure flowers all winter long.

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Horticultural Queries.

Clover in Orchard.—Please let me know if clover sown in orchard would injure the fruit trees? GEO. H. McNUTT.
Boyds Creek, Tenn.

If you mean to haul away the clover it would injure the trees by depriving them of the food the clover would use, not in any other way. Clover is sometimes sown and the plants turned under for the use of the trees. It can be but said that if you have food enough for both trees and clover, no harm will be done; if not enough for both, trees will suffer.

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Horticultural Notes.

Figs.—It's a wonder figs are not more grown than they are. As tub plants in the North they fruit freely. When planted out in summer, lift them and bury under ground on the approach of winter. They will be found all sound in spring.

Shaping a Tree.—A good shaped tree is a pleasure to behold. It don't need a constant cutting and hacking at one to effect this. A limb may be getting the lead where it should not, and would add to the appearance of the tree if cut away or shortened. Natural growth is very often the most pleasing of all, when the tree is in its proper position for a natural growth.

Magnolias. — Where room for but one magnolia, plant Soulangiana. The flowers are purple outside and white within, and come the first thing in spring. South of Philadelphia the evergreen one, Grandiflora, is hardy. There are a few fine specimens of it in the city named.

Bulbs of all sorts are so beautiful in early spring that those who have neglected to plant them in the fall always regret it when they see the flowers. Alongside of a house facing south, and where there is no shade, the crocus flowers in February with us. Plant the bulbs in October.

Burning Strawberry Beds in early spring is good to do. It burns up rubbish, eggs of insects, seeds of weeds, etc. The few green leaves of the strawberry of the past season are of but little account in spring, and their loss by burning is so small as to be not worth considering.

Falling Plums.—Plums which fall from the trees when half grown may do so from an attack of the plum rot or from the stings of curculio earlier in the season. Spraying with Bordeaux mixture cures the first, and, with Paris green, the latter.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Chickens as Scavengers. — Chicken yards are our regular dumping places for many of the wastes of the household, the table scraps, fruit peelings, etc., and here, what otherwise would become offensive and a nuisance, is converted into valuable meat. We think highly of the services of poultry as scavengers of the premises. Dish water is poured on the grass in the back yard, and no scrap left after the liquid has soaked away, seems too small for the chicks to notice and pick up. No household is so small, no back yard so limited, that at least a few hens would find room, and become "valuable allies in the sanitary work of the premises." We like to give our fowls free range—a full sweep of the premises, so as to be able to get every waste of the house and surroundings that has a food value. Of no less importance is the enlarged chance for gathering insect food. Chickens are not to be despised as insect eaters. None, perhaps, ranks higher in this respect than the guinea fowl, and noisy as it is, there is often a place for it on more isolated homes and larger farms. We have often wished for a dumb guinea fowl!

Poultry Houses in Orchards and Fields.—The Mark Lane Express (England) advises farmers to put their poultry houses out in the fields during hot weather so that much of the insect life which abounds there may be picked up and destroyed. That hens and chickens, and ducks and turkeys when roaming at large pick up great quantities of insect food, is indisputable. In fact, the quantities are almost incredible. We like little chicks and ducklings, when yet very young, to have the run of the garden where they can make themselves nearly or fully as useful as toads in keeping plants free from bugs and worms. But when the fields and orchards are full of grasshoppers, as usually happens during the latter part of summer and all through the fall, we think more of the meat, or possibly of the eggs we can make of them, than of getting rid of the hoppers, and in some cases, by putting up some cheap shelter or movable poultry house, have had flocks out in the orchards and fields where the hens and pullets laid eggs freely, and the chicks made meat at a most rapid rate, and all this without any attention and very little, if any, additional feed (whole grain), except the customary and needed supply of fresh drinking water, the "hoppers" furnishing nearly all the raw material.

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Queries Answered.

Various Poultry Questions. — Mrs. H. W. R., of Catlettsburg, Ky., asks the following questions: "One of our finest hens has been crowing loudly for several days. Is this a sign that she is diseased? 2. Is sour skimmilk cooked to a curd, good for hens or growing chicks? 3. Is sound whole rye injurious to poultry? 4. Is rape better for poultry than rye or turnips for green food?" 1. The crowing hen may turn out to be barren; or it may only be a notion she has gotten into. The crowing is no sign that she has any particular disease. 2 The only trouble with the skimmilk we have is that we do not have enough of it. You can give it to your fowls to drink, or make it into "Dutch cheese" and feed it as freely as you please. It is as good as feeding meat meal or green bone. 3. We have frequently been feeding rye as part of the ration. It does not seem to have any bad effect on the fowls, although they do not like it as well as other grains, and we usually feel safer when feeding wheat, peas, barley, buckwheat or corn. 4. Rape makes excellent green food for poultry, but hardly better than turnips, although better, perhaps, than rye.

Patented Feeds. — C. M. Ashton, of Hightstown, N. J., asks about the feed offered by the H. O. Co. as a sort of waste from their breakfast food, and wants to know what we think of it as a poultry food the year around, instead of his mixing wheat, cracked corn and oats himself. He has fed one and a quarter pounds of mixed grain twice a day to his 27 pure Plymouth Rock chickens, besides table scraps and what they could pick up in a large orchard. He also asks about the cracked bone found at supply stores, and about the Boiled Beef and Bone recommended as a substitute for green cut or ground bone. H. O. food, we believe, is manufactured in Buffalo, N. Y. It is one of those food products that we have often used with good results, and the composition of which can be learned by asking the New York State Experiment Station at Geneva, which keeps watch and control of all such foodstuffs put on the market in the State. Usually we prefer to feed whole grains in variety, especially wheat, varying it with peas, oats, barley, etc., with a fair proportion of corn at least during the colder months, and very little, if any, of it during hot weather. At present, however, we rely entirely on shredded wheat waste, which is the same as the shredded wheat biscuits manufactured by the Natural Food Co., of Niagara Falls, and which have become so popular as a breakfast food. This waste costs us $20 a ton, and is as good as (if not better than) whole wheat. We add meat meal, and moisten the whole with milk or water, and thus feed it in two meals a day. The amount given is about 15 pounds a day for 50 full grown Langshans. To younger chicks we would feed all they will eat up clean four or five times a day. We would not feed "cracked bone" when we can get meat meal, may this be B. B. B. or any other of a high percentage of protein.

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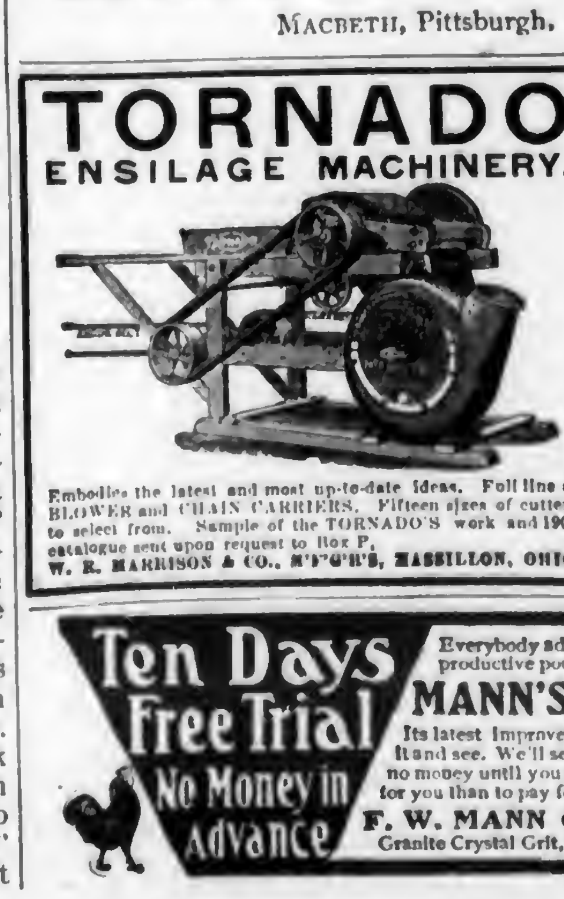

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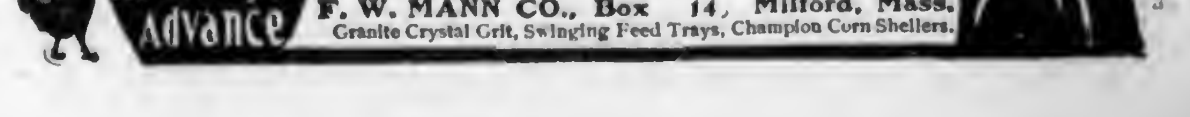

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PROF. W. F. MASSEY, Editor.

Philadelphia, October 3, 1903

OUR pea vine hay is in the barn. It took more than three days, this year, to get it into the proper condition for storing. But it was cured in the cock and no bother of stakes or poles was used, but simply the same curing we give to clover hay, only that it takes, generally, more time. The peas have one advantage over clover in the fact that a rain on them while curing does little, if any, harm. Still the hay is brighter for being cured without rain, and we always like to get it in before any rain falls on it. The crop is later than usual this season, and even in the South the weather conditions have been less favorable than usual. North of Southern Pennsylvania it is evident that the chief use of the cow pea will be as a summer pasture for dry weather, and as a soil improver.

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IN passing through parts of Pennsylvania and New Jersey lately, we were struck with the fact that many farmers in these sections still make a practice of hauling out manure and dumping it in small piles in the field to remain till convenient to spread it. It is hard to understand how anyone gets into this habit, for when manure is hauled in wagons it would seem to be just as easy to spread it from the wagon as to fork it out in little piles. Then, too, these piles are apt to remain there for some time and the rains carry the soluble portion into the soil, and the result is rank spots in the fields and lodged grain often on these spots. It is evident that the men who follow this practice do so simply because it has been the custom to do so all their lives, and they do not bestow thought enough on their business to find out that it is a bad practice. They have evidently not heard of the manure spreader, and the chances are that they do not read the farm papers, and think that book farming is all a humbug. They pride themselves on being practical men, when they are really the most impractical and wasteful. Such indications in passing through an otherwise fine farming section cause one to wonder why improved ideas penetrate so slowly among otherwise good farmers.

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The Isthmian Canal.

One of our farm contemporaries seems very much disturbed that the United States Government is going to spend millions of dollars in the building of a canal across the Isthmus of Panama when we refuse to subsidize an ocean fleet to use it. "Other nations, wise enough and liberal enough to subsidize carrying fleets will profit by the canal at our expense." We have no idea that any ships will pass through without paying toll, and the more foreign vessels that pass through the canal the better for us. Now so far as the farmers are concerned we cannot see that they would be any better off with subsidized ships. If the foreigners will carry our cotton and corn and wheat across the sea for less money than our own people would charge, then let the foreigners carry them. But the fact is that we have lots of ocean steamers, but owing to our antiquated navigation laws they are compelled to carry a foreign flag. **Let our people buy ships where they** please and bring them under our flag, and we will soon see whether we have a mercantile marine or not. We cannot see the profit in taking the people's money to enable part of the people to get rich sailing ships. The subsidy business, like the fast mail on the railroads, is only one way they get money out of the people for the benefit of the few. We need the Isthmian canal, and our ships will use it, and we hope that thousands and thousands of the subsidized ships of other nations will use it and pay us for the privilege.

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Two Soiling Crops in a Season.

The Editor has been very much interested in the crops on a field he passes daily going to his own farm. It is the farm of the North Carolina College of Agriculture. This field had a sod of grass on it which had been grazed pretty hard during winter and early spring. It was broken and planted in corn, and a finer growth of corn is seldom seen. I estimated that it would make from 50 to 75 bushels per acre. But as soon as the ears hung heavily on the stalks the corn was cut and fed to cattle in the stables, and as the land was cleared, cow peas were sown, and for weeks past the heavy mass of peas has been gradually cut and fed to balance the corn from another field. The amount of green food this field has furnished this season has certainly been very large, and it well illustrates what the Southern farmer can do with cattle if he will. With a field near the barn where manure is handy it is hard to estimate the amount of soiling food that can be grown on a small piece of land.

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Alfalfa in the South.

To the many queries in regard to alfalfa we have of late generally given favorable replies. In fact, with the recent experience with this crop it promises to take a leading place among our hay crops in all parts of the country. A plant that thrives from Minnesota to Louisiana, increasing in production as it goes southward, cannot fail to be of great importance. Two and three crops can be cut on its northern limit, four when we reach Georgia, and by irrigation in Louisiana, seven cuttings have been made, and eleven tons of hay secured per acre. Passing the fine farm of Col. J. S. Carr, near Hillsboro, N. C., a few days ago, we were pleased to see the fine appearance of the old alfalfa fields, now about eight years old, but especially to note two fields of the present season's sowing just starting up from a clipping and looking like a velvety lawn. This farm is being devoted to alfalfa hay as a money crop. The soil is the typical red clay of the Southern uplands, and shows plainly that on all these rolling hills the crop will succeed.

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The Talking Man.

At a Farmers' Institute there is nothing that adds more to the interest and profit of the meeting than a lively pumping of the lecturer with questions pertinent to the topic under discussion. At the same time, there is no greater nuisance than the fellow who everlastingly interjects his questions for the mere purpose of airing his crude theories. We found one of these "know it all" gentlemen at one of our Summer Institutes. He claimed to be an experimental farmer and had worked out everything practically, and ever and anon he punctuated the lecturer's remarks with questions which he proceeded to answer himself, evidently with the notion that no Experiment Station has ever experimented so accurately as he had. So instead of adding to the interest of the meeting our talking man worried and tired the hundreds who were there intent on getting something new out of the meeting, and at the close we felt that we had failed to accomplish what we might have done had the talker been absent. If a farmer thinks that he has ideas of value to suggest, he should, by all means, try to get a place on the regular programme, and not endeavor to make another man's address for him. Throw in the questions as fast as you please, but do not make them an excuse for airing crude theories, for the most complete theorist is the man who imagines that he is the only "practical" man, while the Station workers, who are the most intensely practical men, reducing everything to weight and measure and guessing at nothing, are the real practical men, who indulge in no untried theories whatever.

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The Passing of a Great Artist.

Those of us who are old enough to remember the aggregation of all sorts of trees that formerly constituted the park around the National Capitol in Washington, and the hideous iron fence that enclosed the grounds, the grassy terrace on the west front of the building, which looked as though the weight of the great structure would mash it outwards, can realize the great value of the work of the artist who transformed the aggregation of trees into a beautiful park, abolished the iron fence and built the splendid marble terrace in harmony with the great structure above, and adding to its majestic proportions. But the work of the venerable artist is over. Ripe with years and honorable works, Frederick Law Olmstead has passed away. The greatest of modern landscape gardeners is no more. But the new ideas of natural beauty which he spread throughout the land will live after him. His work on the Capitol grounds was the final cause of the removal of the crowded nurse trees from the Smithsonian grounds and which has made them, too, beautiful. Downing planted these grounds thickly, putting in quick-growing trees for temporary use until the trees of his design grew. After his death whenever anyone tried to remove the nurse trees that were crowding the life out of the good trees the papers made a howl about the destruction of trees, not knowing that the ax is at times as important in the gardener's art as the planting spade. All over the land Olmstead taught the value and beauty of open grass spaces with bordering groups of trees and shrubbery as contrasted with the old planting of trees indiscriminately in groves for the destruction of grass and of each other. In many of our parks there is much, however, yet to be learned. In the beautiful Prospect Park of Brooklyn we recently noticed that all along the Ninth street border there are thousands of worthless trees crowding the shape, and almost the life, out of fine ones. A landscape artist with an ax corps is badly needed there. Park managers are slow to learn that one well developed tree is worth more than a dozen crowded and starved ones. There was something of a newspaper howl when Olmstead began to take out trees in the Capitol Park, but all now see the ideal that was in the mind of the artist and acknowledge his wisdom. If some bold artist would take Prospect Park and some other parks we know of, in hand, the public would soon learn how necessary the ax is at times in the production of beauty in tree and shrub. Mr. Olmstead's long life has left its impress on American landscape art that will never be effaced. May his successors follow in the same lines.

The Cream of the Bulletins.

Canada Department of Agriculture, Central Experiment Farm. Report of the Horticulturist, W. T. Macoun.

Mr, Macoun's reports are always full of valuable suggestions, and we use the last one this week for the purpose of getting some extracts that may be of value to our readers of the far North. At the Central Experiment Farm they have been growing seedling apples largely and have now 1,388 of these trees set with the hope of getting valuable varieties suited to that climate. The orchard treatment at this farm is peculiar in some respects. The method adopted is to keep the orchard in clover part of one year and all of the next, and then too plow and reseed as soon as possible. The clover is cut several times during the season and is left to rot on the land. In 1898 it was found that 25 tons of green clover were thus left to rot during the season, and the past year there were 18 tons and over, per acre, left as a mulch to the trees. It seems that the practice of growing clover and grass in orchards for the benefit of the trees, as the Editor of the P. F. has been urging for the last thirty years, is gradually extending. The practice of the Canada farm differs in the fact that clover is grown instead of grass and the land is plowed in alternate years. Some variation is made in the culture, as in the case of young trees it is thought best to keep them cultivated to promote growth. Our own opinion is that while the orchard is young the clover treatment may be best, but in the later years we believe that a permanent sod treated in the same way as a mulch will be found better. The apple crop last year was good and free from scab and but little troubled with codling moths. Some were sold at home and a shipment was made with success to Glasgow, Scotland. There were 100 cases shipped and the net proceeds were $80.15, or $3.20 per barrel, as it took four cases to make a barrel. This was a difference in favor of the shipping abroad over selling at home of $2.10. Considerable space is given in the report to a description of seedling apples that have been sent in by various parties, and it would seem that there is a great interest in Canada in the production of new apples. In fourteen years pears have generally failed on sandy soil at the Experiment Farm, mainly by reason of blight, which has killed whole trees. The Longworth pear seems resistant to blight, but is of rather inferior quality. Of all the good varieties tested, the Flemish Beauty has proved the hardiest, but even on clay loam the pear has not been a success at Ottawa. Plums wintered well and made a good growth during the summer. The American plums, blooming early, were hurt by frost, while the European sorts, blooming later, were unhurt. Descriptions are given of some American plums that have been grown from seed and found good. No attempts seem to have been made with the Japan plums, which are probably too tender for the climate. No good crop of cherries has been made since 1898. Strawberries came through the winter with a mulch of four tons of oat straw per acre, and were uncovered April 28th but slightly hurt by frost May 9th. Detailed descriptions are given of an immense number of varieties. The dates of first ripening ran from late June to nearly the middle of July, a little odd to one accustomed to ripe strawberries early in April. One of the most interesting items is the account of a mixture to take the place of the Bordeaux, consisting of 4 lbs. of copper sulphate, 5 lbs. of washing soda and 40 gallons of water. It costs rather more than the Bordeaux but is more easily applied. It was tested, but as none of the fruit spotted the result was not conclusive. A test of 131 varieties of potatoes was made and an average yield of 429 bushels per acre made. One sort, the Peachblow, gave over 772 bushels per acre, and 23 varieties exceeded 500 bushels, while the Rose fell to 154 bushels per acre. A test of seven years has shown that the best distance for planting potatoes there is in rows two and a half feet apart and fourteen inches in the row, and for six years the heaviest yields have been had from planting only an inch deep, but 4 to 5 inches is advised for field culture. The most economical planting is three eyes to the set with a large piece of flesh. The material called Bug Death was tried in comparison with Paris green, and proved perfectly effective in destroying the bugs, but the cost is far greater than with Paris green and Bordeaux mixture. Of tomatoes Sparks's Earliana was found the best early variety. The remainder of the report is devoted to the description of forest trees and flowering perennial plants of interest to Canada growers.

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CONTENTS

AGRICULTURAL. — Questions from Washington. — Curing Hay in the Barn.—Potash and How to Buy it.—How to Buy Phosphoric Acid.—Health Hints.—Light and Sunshine Help Make the Home Cheerful and Healthful. 209
Fruits and Refrigeration. 210
QUERIES.—Improving the Texture of the Soil.—Cow Peas in South Dakota.—Disease in Cow Peas.—Harvesting Buckwheat. 211
LIVE STOCK AND DAIRY. — Grazing Crops for Hogs; Part 2. 212
VETERINARY.—Warts. — Sick Cow.—Agalactia. — Impaired Breathing.—Tumor.—"High Flanker."—Warts.—Garget. 213
GARDEN.—Harvesting Cow Peas and Soy Beans.—Talks on Timely Topics.—The Wheel Hoe in the Onion Patch. — Current Comments. — Ginseng Prospects.—Notes from a Carolina Garden. 214
HORTICULTURAL.—Rose of Sharon.—Plant Bulbs.—Horticultural Queries.—Clover in Orchard.—Horticultural Notes. 215
POULTRY.—Seasonable Suggestions.—Chickens as Scavengers.—Poultry Houses in Orchards and Fields.—Queries Answered.—Various Poultry Questions.—Patented Feeds. 215
EDITORIAL.—The Isthmian Canal.—Two Soiling Crops in a Season.—Alfalfa in the South.—The Talking Man.—The Passing of a Great Artist. 216
CREAM OF THE BULLETINS. 216
COMMERCIAL. 217
HOME CIRCLE.—The Old-Fashioned Mother.—Editorial Chat.—All in a Lifetime; Part 13.—In the Kitchen. 218 The Woman Vote.—Perhaps If You Knew.—Youths' Parliament.—Correspondence. 219
OUR EXPERIENCE POOL.—Topic No. 592.—The Farm Hand. Do You Find it best to Have Young White Men in Your Family or Married Men in Tenant Houses? 220
SHORT CUTS BY P. F. SUBS.—A Good Wire Stretcher.—How to Fix the Clock. — Hog-Proof Gate Latch.—Good Mouse Trap.—Cheap Picture Frames.—Cold Boiled Potato Mucilage.—Care of Grindstone.—Uses of Kerosene. — Lines Under Wagon Tongue.—Household Hints. 221
MISTAKES, FAILURES AND SUCCESSES.—Circular Barn. — Hints for Housewives.—To Preserve Rail Fences.—Drying Corn.—Whitewash for Buildings and Fences.—Grape Jelly Without Crystals. 222
POSTAL CARD CORRESPONDENCE. 224

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PHILADELPHIA MARKET REVIEW.

September 26, 1903.

Every change in temperature seems to have had more than ordinary attention recently from those who are interested in the products of the farm. Last week it was thought that the severe rain storms in the West and South would seriously affect the quality and quantity of corn, cotton, hay, vegetables and fruits. That the disaster was much overrated in the corn belt is shown by the Government's weekly crop report. Although the weather was abnormally cool, with frosts West and in the Middle South, the damage has not been serious, except in the extreme western portions of Kansas, Nebraska, North and South Dakota, Minnesota, Wisconsin and New England. South Atlantic States had an overabundance of rain, and in the far West rain interfered with the threshing of spring wheat and caused grain to sprout in the shock. The bulk of the corn crop is safe, but the unmatured corn must have two or three weeks of good ripening weather. Fluctuations of prices in staples in city markets have been of daily occurrence, but at the end of the week there appears to be but little difference to report. Corn, oats and wheat show a decline, owing to more favorable crop reports; but hay and other feeds have advanced. The export of cereals at present is very moderate, and this has its effect upon the steadiness of the market. During the holidays incident to the Jewish New Year, the demand for live poultry was not up to the average, but as the supply was light, the two conditions balanced and prices were about steady at former quotations. The daily arrivals of dressed poultry are promptly taken by retailers and marketmen, leaving conditions very satisfactory and prices firm. There is a good demand for Western heavy yellow fancy chickens at 15 cents. Butter prices are hardening and fine goods are in active quest. The market is soon cleaned out of anything that stands high rating in texture, aroma and extra care in preparation and shipping. Such butter commands 22 cents, or better. A considerable falling off in production, and consequently in receipts, is already noted, and this will have a tendency to still further stiffen prices and make a livelier market. Undergrade prints have accumulated and prices are dull and irregular. Fine newlaid eggs are very scarce and there is competition enough among regular buyers to keep high rates. Nearby eggs of this grade remain firm at 25 to 28 cents, loss off. Western shipments are irregular in quality and several invoices have been sold at relatively low price. Strictly fine marks bring top price, always. Refrigerator eggs ruled firm for choice, and the withdrawals from storage during the week were several thousand cases.

Apples are almost a glut—the poorer grades. Fierce winds and driving rains have threshed the apple trees, and the farmers have been gathering the drops and hurrying them to the city. Any price, almost, is accepted so as to get rid of them. Fancy apples, and all other fruits, are in good demand, prices firm, receipts light. About the highest-priced fruit in market is Seckel pears at $5@$6 a barrel, for good size and fine quality. New York Bartletts follow closely at a dollar less. Watermelons are about done, and the Rocky Ford is almost the only muskmelon to be had. Grapes are plentiful and cheap. White and sweet potatoes are coming in liberally. Onions and cabbage are low; supplies abundant. Fancy cauliflower is bringing but $1.75 a barrel, and cabbage $10@$15 per ton. In hay and straw desirable stock is kept cleaned up at a shade better prices. At the city hay market prime timothy ruled at 90c.@$1, and straw, 80@90c. per hundred pounds. Veal calves and fat hogs are active in best grades at a slight advance. Sheep, lambs and beef cattle hold firmly at last week's quotations.

WHEAT.—

No. 2, red, spot and Sept....	78¾@ 79
No. 2, Penna. and Del......	79¾@ 80
No. 3, red	73¾@ 74

CORN.—

No. 2 spot and Sept........	52 @ 52½
No. 2, yellow, track	58 @ 59
No. 3	48 @ 48½

OATS.—

No. 2, white natural, new..	43
No. 2, white clipped	43½@ 44

LIVE POULTRY.—

Fowls, hens, per lb.	14 @ 14½
Roosters, per lb.	9½@ 10
Spring chickens, per lb. ...	13½@ 14½
Spring ducks, per lb.	12
Old ducks, per lb.	11 @ 12

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	14½
Fowls, average, per lb.....	13½@ 14
Old roosters, per lb........	9
Broilers, nearby	14 @ 16
Illinois, d.p., heavy, per lb..	15
Western, d.p., fancy, per lb.	14
Western, scalded, fancy, lb..	11 @ 12

BUTTER.—

West. cream'y, 1sts to extra	21
Ladle packed	15½@ 16
Prints, nearby, 1sts to extra	20 @ 21
Prints, West., 1sts to extra.	18 @ 20

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	25
Western 1sts, free cases..L	23 @ 23½
No. West., 1sts, free cases, L	23½@ 24
So. West., 1sts, free cases, L	21½@ 22
So. choice, free cases.....L	20 @ 20½

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—	
Choice and fancy	11¾@ 11½
Fair to good	10¾
State, part skims, prime ...	8 @ 9
Domestic Swiss, No. 1 new.	13 @ 13½

GREEN FRUITS.—

Plums, N. Y., 8-lb. basket	
Prune	20 @ 25
Damson	25 @ 30
Reine Claude	22 @ 25
Green Gage	20 @ 23
Peaches, Mich., per bu. bas.	2.00 @ 2.50
N. Y., per 2-bas. crate....	1.25 @ 2.00
Grapes—Del. & Md.—	
Concord & Moore's E'y, car	50 @ 60
N. Y. Moore's Early, car.	60 @ 75
Nearby, 8-lb. basket	15 @ 18
Cantaloupes—	
Jersey, per ½-bu. bas....	15 @ 50
Col. Rocky Ford, crate..	2.00 @ 2.75
Cranberries—	
Cape Cod, early Bl., bbl..	5.50 @ 6.00
Cape Cod, early Bl., crate	1.75 @ 2.25

APPLES AND PEARS.—

Apples—	
N. Y. fancy red, bbl.....	2.50 @ 2.75
Maiden Blush, per bbl..	2.25 @ 2.75
20-ounce Pippin, per bbl..	1.50 @ 2.00
Pears—	
N. Y. Bartlett, per bbl...	4.00 @ 5.00
N.Y. Clapp's Favorite, bbl.	2.50 @ 3.00
N. Y. Seckel, per bbl.....	4.50 @ 5.50
Other varieties, per bbl.....	2.00 @ 3.00

POTATOES.—

Jersey, prime, per bas......	30
Sweets, Va., pr., yellow, bbl.	2.00 @ 2.25
Sweets, Jersey, ⅝-bu. bas..	40 @ 45

BEANS AND PEAS.—

Beans, marrows, H. P., bu..	2.95
Pea Beans, H. P., 1902, bu.	2.25
Green peas, per bu.........	1.50
Scotch peas, per bu.	1.55

COTTON.—

Cotton, per cwt.	11.60

FEED.—

Bran, bulk, winter, per ton.	19.50 @ 20.00
Bran, sacked, spring	19.50 @ 20.00

HAY AND STRAW.—

Timothy, new, No. 1.......	16.00 @ 16.50
Timothy, new, No. 2, small.	15.50 @ 16.00
Timothy, mixed, new	14.00
Straw, new, straight rye....	17.50 @ 18.00
Oat	9.00 @ 9.50
Wheat	9.00 @ 9.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5¼@ 5½
Good steers	5 @ 5¼
Medium steers	4½@ 4¾
Common steers	4 @ 4¼

Veal calves active for best grades.

Extra calves	8¼@ 8¾
Fair to good	7 @ 8
Poor and common	5 @ 6½
Grassers	3 @ 4½

Hogs active.

Fat hogs, Pa., Del, & Md..	6½@ 8¼
Fat hogs, Western	8¾@ 9

Sheep and lambs steady for best grade.

Sheep, extra	4¼@ 4½
Sheep, good	3¾@ 4
Sheep, medium	3 @ 3½
Sheep, common	2 @ 2¾
Lambs	4 @ 6½

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REVIEW OF NEW YORK MARKETS.

September 26, 1903.

Little things are made much of in market quotations. Rumors, however slight and unreliable, are often the basis of a drop or an advance before anyone takes the trouble to investigate their truth or falsity. Stocks, cotton and grain have been affected this way lately. A slight advance in ocean freights caused a temporary decline in wheat of a cent a bushel. The week has been rather uneventful in all lines of trade, with slight variations in prices as last reported. Wheat, corn, oats and hay have a steady market; receipts more than equal to present demands. There was a fair export demand for corn which tended to keep a firm market. Local trade in oats and hay is dull. The butter market is firm for high grades of fine creamery. During the latter part of the week there were sharp advances in eggs, fine grades being in light receipt and in very active demand, closing at higher prices, "extras" being quoted at 24c. Live and dressed poultry show few changes; the demand being for choice Western heavy fowls for roasting.

Oranges and lemons are scarce and prices are better. Apples are too plentiful in certain grades, but fine stock commands a fair price. The demand from abroad is causing thousands of barrels to be stored, awaiting ocean shipment. Scotland is taking large consignments of apples, and the prediction is made that ten dollars a barrel will be reached before immediate needs are met. Apples are a failure in the British Isles, and the American varieties have pleased foreign consumers. Pears, plums and grapes are in fair supply with remunerative prices for carefully-handled varieties. Eighteen carloads of California peaches, grapes, pears, plums and prunes were sold at auction one day this week; peaches, small packages, averaging $1; Seckel pears $1.55, and Bartletts $2 to $3. Jersey muskmelons are down to $1 a barrel; Rocky Fords average $2 a crate. Watermelons are moving slowly at $150 a carload. Peaches rule at $1 to $2 a basket, according to quality and condition. The bulk comes from the West. The vegetable market is well supplied, quality poor and prices in accord. Potatoes are in large supply and the demand does not equal the offerings, yet prices hold firm for acceptable varieties. Southern sweets $2; Jersey $2.75 a barrel.

Points.—New crop hickorynuts are worth $2.75; Southern cultivated chestnuts, $12, and wild ones $6 a bushel. Pineapples come regularly from Cuba in consignments of four to five hundred crates. A shipment of 850 tons of currants was received this week from Mediterranean ports. A Panama steamship brought canned asparagus from California, 500 tons of bananas and 800 bags of cocoanuts. Porto Rico oranges are arriving in bulk by every steamer. They are sized, wrapped and boxed, and find ready sale at prices a little under California oranges. Realizing that there's money to be made in vegetables this winter, a well-known produce commission firm has leased an island off Charleston, S. C., and will place expert growers in charge to cultivate truck for the New York market. Owing to unfavorable weather the past summer many persons in the trade predict a famine in certain lines of vegetables before next season.

WHEAT.—

No. 2, red	84
No. 1, No. Duluth, new f.o.b.	00½

CORN.—

No. 2, yellow	59
No. 2, f. o. b.	55

OATS.—

No. 2	41½
Standard white	42¾
Track white	42 @ 46

HAY AND STRAW.—

Timothy, pr., l'rg bales, cwt.	90
Timothy, No. 1	80 @ 85
Timothy, No. 2...........	75 @ 77½
Straw, long rye, per cwt...	75 @ 1.00

BUTTER.—

Extra creamery	21½
Extra factory	13½@ 15½
State dairy	15 @ 20

CHEESE.—

State, f. c., small, fancy...	11½
Good to prime	10¼@ 10¾
Large colored, fancy	11½
Large white, fancy	11½

EGGS.—

QUOTATIONS AT MARK.

State & Pa., fancy	24 @ 26
State & Pa., seconds	19 @ 23
Western extras	23
Refrigerator	17½@ 20

LIVE POULTRY.—

Spring chickens, nearby, lb.	14½
Southern, per lb.........	14
Fowls, per lb.	14½
Roosters, per lb.	9
Turkeys, per lb.	13
Ducks, West., per pair.....	60 @ 75

DRESSED POULTRY.—

Turkeys, spring, d. p., lb...	15 @ 20
Scalded, per lb..........	12 @ 15
Old, mixed, per lb.	14 @ 16
Broilers—	
Phila., fancy, large, lb...	20 @ 21
Phila., mixed sizes, per lb.	17 @ 18
Fowls—	
Ohio & Mich., scalded, lb.	14
West., d. p., av. best, lb..	15
Scalded, av. best, per lb..	14 @ 15

APPLES AND PEARS.—

20-ounce Pippin, per bbl..	1.75 @ 2.75
Crab, per bbl.	2.00 @ 5.00
Fall Pippin, per bbl.....	1.50 @ 2.00
Greening, per bbl.	1.25 @ 1.75
Baldwin, per bbl.	1.50 @ 1.75
Pears—	
Kieffer, per bbl.	1.50 @ 2.00
Clapp's Favorite, per bbl.	2.50 @ 3.50
Bartlett, State, per bbl..	3.00 @ 5.00
Seckel, per bbl.	3.00 @ 4.50
Cranberries—	
Cape Cod, bbls.	6.00 @ 6.50
Per crate	2.00 @ 2.25
Pineapples—	
Fla., Red Spanish, crate.	2.75 @ 3.00
Havana, Red Span., crate	1.40 @ 2.50
Grapes—	
Up-river, car., Delaware..	65 @ 1.00
Up-river, carrier, Niagara	75 @ 1.00
Worden, per carrier	40 @ 60
Concords, per carrier ...	50 @ 70
Muskmelons—	
Jersey, per bbl.	50 @ 1.00
Col. Rocky Ford, f'cy, cr't	1.50 @ 2.50
Pony crate	75 @ 1.25
Peaches—	
Western Md., per carrier.	2.00 @ 2.50
Up-river, pony carrier....	1.00 @ 1.50
Jersey, best, per basket..	50 @ 1.25
Michigan, per bu.......	1.75 @ 2.00
Plums—	
Large, blue, 8-lb. basket.	20 @ 22
Common, 8-lb. basket ...	8 @ 10
Egg, 8-lb. basket	20 @ 25
Damson, 8-lb. basket	20 @ 30
Blue Gage, 8-lb. basket...	15 @ 20
German prunes, 8-lb. basket	25 @ 35
French prunes, 8-lb. basket.	30 @ 40
Quinces, per bbl.	2.25 @ 3.00

VEGETABLES.—

Brussels sprouts, per qt....	6 @ 8
Cabbage—	
Per 100 heads	2.50 @ 3.75
Per crate or bbl.	60 @ 80
Cucumbers—	
State & Western, per bbl.	2.00 @ 2.50
State & Western, per bu..	50 @ 1.00
Cucumber pickles, per 1,000	2.00 @ 2.50
Celery, fancy, per doz.....	40
Good to choice, per doz..	15 @ 20
Eggplants, Jersey, per bbl..	1.00 @ 1.25
Green corn, per 100.......	75 @ 1.75
Lettuce, Boston, per case..	2.00 @ 2.50
Lima beans, potato, per bag	1.50 @ 2.25
Jersey, flat, per bag.....	1.00 @ 1.25
String Beans—	
West. N. Y., green, bu...	50 @ 1.00
L. I. and Jersey, bag.....	50 @ 75
Norfolk, wax, basket	75 @ 1.00
Peppers, Jersey, bbl.	75 @ 1.00
Tomatoes—	
Choice Jersey, per box...	25 @ 60
Delaware, per bas......	15 @ 25
Russia turnips, per bbl....	1.12 @ 1.25
Onions—	
L. I. yellow, bbl.........	1.50 @ 2.25
White, per bag	50 @ 1.25

POTATOES.—

Long Island, per bbl.......	1.62 @ 1.87
Jersey & Md., bbl.	1.50 @ 1.75
Jersey sweets, per bbl.	2.50 @ 3.00

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@23
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

The Old-Fashioned Mother.

FANNIE NOYES.

Yes, she was an old-fashioned mother,
She was bent and wrinkled and gray;
She had borne with brave endurance
The burden and heat of the day.
Years ago she was fair and graceful,
Her laugh with music rang;
And in the summer twilights,
Sweet lullabies she sang,
As upon her mother-bosom
Lay golden heads so small,
While she dreamed that in the future
Their love would repay her all.

Tall and fair grew the daughters,
With girlhood's winsome grace;
But in their lives their mother,
It seemed, held little place.
So long had she worked in silence
That they had forgotten, quite,
That in the home or household,
She had other place or right.
And no one seemed to notice
How, from day to day,
Fresh lines in her face were furrowed
And her hair grew silver-gray.

But one night in the silent watches,
The mother quietly slipped away;
Cold and still they found her lying
At the dawning of the day.
Ah, then there was bitter sorrow,
As in death's embrace she lay,
Her years of toiling ended
And closed life's weary day.
The hands so worn and roughened,
They crossed upon her breast,
And whispered low, "Dear Mother!"
Above her dreamless rest.

Ah, not till the hands were folded,
And the heart had ceased to beat,
And God's sweet rest had been given
To the tired, aching feet,
Did they think of the patient toiling,
And speak the words of praise
Which would have so lightened the labor,
If uttered in other days.
And though years have passed with their changes,
They found that never another
Could fill the place of that lost one,
The dear old-fashioned mother.

Ah, there are many mothers,
Who, through long weary days,
Toil on for their own, unceasing,
Without need of love or praise.
The words which would thrill with gladness,
Far often are left unsaid,
Till the rest of death has fallen
On the tired heart and head.
And at last is learned the lesson,
That on earth there is no other
Can fill that place left vacant;
God gives us but one mother.
Ft. Pierce, Fla.

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Editorial Chat.

Friends, have you noticed the new catalogue of Montgomery Ward & Co., of Chicago, is out? See their ad. on page 210. Send them 15 cents and mention the P. F. It will be the best investment you ever made.

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All in a Lifetime.—Part 13.

VELMA CALDWELL MELVILLE.

Gradually the gulf between Dr. Glen and his wife widened, although an advance on the part of either one would have been met half way by the other. The opportunities that passed to be listed with the "might have beens" were even more numerous than those in the history of Patty Pearl and her first love, but not more numerous, perhaps, than come into the lives of every estranging husband and wife. Like a mad little mountain torrent, the stream of such a life rushes on, and yet the smallest impediment may stem its course—a yielding of the will, a sacrifice of foolish pride, the expression of a bit of love, even a look sometimes.

And yet no one suspected but "the doctor's folks" were as happy as the average; indeed they were regarded as model, for never, in the presence of others, did he fail in his calm courtesy toward her, nor she in the pretty wifely devotion which she had ever worn like a neatly fitting garment rather than a jewel of the heart.

It was late autumn when Winthrop was taken ill. Not violently sick, but moping and peevish, with slight fever in the afternoons. It was some time before his father could detect anything more than "a little cold or wormy," but the keen intuition of the mother knew it even before the real outward signs were visible. Never from the moment of her husband's rude repulse had she gone freely to him with anything concerning the child. It was not the insult to her, but to speak and feel so about the babe—that was something she could not get around. Times without number, almost, had she wept over the memory, but she never referred to it; perhaps it had been better if she had.

But by and by even the busy father saw that the boy was ailing, but he persisted in diagnosing the case as indigestion, and treating as a not over serious matter. To be sure, he criticised his mother's way of feeding him and insisted upon a very plain diet. This of itself was a great grief to Pearl, who could only solace herself by eating nothing "Baby" could not have. Of course she was more devoted to him than ever, and of course the doctor was not always considerate.

Matters came to a culmination one night, when, growing alarmed, Patty Pearl hurriedly sent a message to a house where her husband had been called, bidding him come at once. A half hour, then an hour passed, and still no sign of him. Frantically the mother walked the floor, carrying the heavy, crying child. Then she sent again, but he had gone from there. Another half hour she waited, then, desperate with fright and anger, she summoned her husband's rival—Dr. Wayne.

And thus he found them on his return—the child in his crib quietly sleeping, the mother, pretty and disheveled, in her white wrapper, on the one side, sunshiny young Dr. Wayne on the other, holding the little hot hand. For a moment Harry Glen stood transfixed on the threshold, his brow darkening and a mighty notion to stride in and knock his rival down, struggling for the mastery over his good sense.

Coldly and proudly his wife raised her pale face, with a gesture for silence. Dr. Wayne arose and courteously turned to his rival with extended hand, murmuring:

"So glad I happened to be handy; the little fellow was in a bad way. Acute spasms of the stomach."

By this time Harry Glen had himself in hand and abated not one jot or tittle of professional courtesy during the short time the doctor remained. But when the door was closed and the sound of receding footsteps had died away, then Dr. Glen turned to his wife with a face so white and terrible in its expression that she recoiled as from a blow.

"Mrs. Glen, I demand an explanation."

For a moment the bright color came into her face and a startled, frightened look into her eyes; then she went white again and said calmly:

"Don't speak so loud; you will waken Winnie. As for your query, I will answer it by asking you a question, or rather, two questions. First, why did you not come when I sent for you? Second, where were you when I sent the last time?"

"I was with my patient, madam, when you sent to Adams. I started as soon as I could, although I knew there was no rush about my getting here; that you were only sterícky. As I came away the Grovers sent in haste, saying little Flo had fallen into a tub of scalding water. Knowing there was no real danger here, I could do nothing but go with the man. It was Groves himself, and he was half crazy."

"'Stericky?'" questioned his wife with fine scorn.

"No, madam, it was an occasion for alarm. I do not think she will live, and I promised to return at once. This much please understand, however, now, once and for all. You have done more to harm me tonight than can ever be undone. You have called in and given countenance to the man who has come in here with the express purpose of running me out. If he succeeds, you may thank yourself. You know that by noon tomorrow he and his few friends will have it all over town that when Dr. Glen's own child is sick he sends for Wayne. People will say at once that if I can't doctor my own family I can't theirs. O, it will be a pretty mess!"

And banging the door behind him the man, now wrought up to a fury, tramped heavily away. The loud, angry tones and noisy doors awakened the sick child, and its screams and cries smote on the doctor's ear as he, after crowding a few necessaries into his medicine case, strode away.

By his return his wrath had cooled considerably and he was even conscious of some twinges of conscience when he found his wife walking the floor crooning and sobbing in a vain endeavor to quiet the child. Donning slippers and dressing gown, he held out his arms, saying:

"Go to bed and I will take care of him."

She shot a quick, troubled glance into his face. The anger had died out and his eyes were bent anxiously on the child.

She let him take it from her, and then turning, fled up to her room, and a moment later a smothered wail of agony came down through the register. Toward morning, when Winthrop was quietly sleeping, the doctor went upstairs and listened at his wife's door. All was still, but some impulse he did not stop to analyze, prompted him to quietly open the door. The light was shining full on her face. Silently he stood regarding it. For the first time he became aware that she was grown thin and haggard; that lines of care and grieving were showing plainly. Tear drops hung on the long lashes and an occasional troubled moan escaped her lips.

He took a step forward filled with the resolve to kneel by her side, awaken her with his kisses and acknowledge all his wrongs of thought, word and deed.

But it was a pity to rouse her; she was so tired. He would let it go until she awoke.

But a messenger came in great haste just as the dawn was breaking. He scribbled a few words of explanation, called the maid to sit with the child and was gone—so was his opportunity.

(To be continued.)

"Let the GOLD DUST TWINS do your work"

The Gold Dust Twins will help you get through your work in a jiffy.

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GOLD DUST

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OTHER GENERAL USES FOR GOLD DUST | Scrubbing floors, washing clothes and dishes, cleaning woodwork, oilcloth, silverware and tinware, polishing brass work, cleansing bath room, pipes, etc., and making the finest soft soap.

Made by THE N. K. FAIRBANK COMPANY, Chicago——Makers of FAIRY SOAP.

GOLD DUST makes hard water soft

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In the Kitchen.

V. C. M.

Plum Pudding.—Two cupfuls each of stoned raisins, currants washed and picked, beef suet chopped fine, and coffee sugar; three cupfuls bread crumbs, one-third cup chopped citron, a large pinch of salt and six eggs. Mix all these ingredients in a large bowl, put in a well buttered mould and set in sauce pan or kettle with boiling water to cover, and boil hard for five hours. Turn out carefully on dish and serve with sauce.

Here are a few recipes of an old friend's that we pass on to the H. C. As she is a most excellent cook, we recommend them as safe and reliable:

Rice Cream or Custard.—Cook a half cup of rice in a cup of water until soft, then add a pint of milk, the yolks of two eggs beaten with quarter cup of sugar and pinch of salt. Let come to a boil and dip carefully over the whites of the eggs beaten stiff. Or stir the whites carefully in the custard. Or, if preferred, turn the custard into a dish, and when cool cover with the whites and brown in the oven.

Tapioca Cream or Custard. — Soak two tablespoonfuls of pearl tapioca in hot water enough to cover it. When the water is absorbed add a pint of milk, yolks of two eggs, a third cup of sugar and half saltspoon of salt, beaten well together. Let boil until it thickens; then stir the whites beaten stiff lightly into the custard, or dip the custard over the whites. Or, if preferred, turn the custard in a dish and when cool cover with the whites and brown in the oven.

Bread Pudding.—Soak one pint of bread crumbs for an hour in one quart of milk. Add two beaten eggs, one-quarter of a cup of sugar, one teaspoon of salt, a pinch of nutmeg or cinnamon and one tablespoonful of softened butter. Bake slowly until done.

Corn Starch Pudding.—Bring a pint of milk to a boil, then add two eggs, two tablespoonfuls of corn starch, a half cup of sugar and a pinch of salt well beaten together; boil until it thickens, then turn in your pudding dish to harden.

Lemon Cream Pudding.—Beat the yolks of four eggs with four tablespoonfuls of sugar; add the juice and grated rind of a lemon with two tablespoonfuls of hot water. Simmer until it thickens, then remove from the fire and stir in the whites of the eggs, beaten stiff with two tablespoonfuls of sugar.

Sponge Cake Pudding.—Boil one pint of milk and beat into it, while hot, one pint of stale sponge-cake crumbs; add the yolks of three eggs and one cup of grated cocoanut, or a tablespoonful of any flavoring, beaten well; then the whites beaten stiff. Bake slowly for three-quarters of an hour.

Apple Pudding.—One pint of nice apple sauce, sweetened to taste, and the yolks of three eggs beaten with it. Put in a buttered dish and bake ten or fifteen minutes; beat the whites of the eggs stiff and add half a cup of sugar; spread this on top and return to the oven to brown.

Orange Tapioca Pudding.—Soak one teacupful of tapioca over night in one pint of water. In the morning put it with three pints of milk and the grated rind of an orange in a double boiler and cook for half an hour. Beat the yolks of three eggs, one cup of sugar, the juice of the orange and a half teaspoonful of salt; then gradually pour the tapioca into this, stirring it constantly, and then turn in a pudding dish. Beat the whites of the eggs with a quarter of a cup of sugar to a stiff froth; spread over the pudding and bake for thirty minutes, with the oven door open.

Banana Cream Pudding.—Heat a pint of milk in the double boiler; beat together until light and smooth, three eggs, three-fourths of a cup of sugar, two tablespoonfuls of flour, one-fourth of a teaspoonful of salt, and stir this mixture into the boiling milk and cook until it thickens, stirring constantly; then remove from the fire and add half a teaspoonful of vanilla; when cold, slice three bananas in your pudding dish and turn the custard over them.

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The Woman Vote.

LAURA A. GREGG.

There was an old-time belief that if women were enfranchised they would mass themselves, and make it their sole object to antagonize men. But there never was a "Woman's Party," and there never will be. In every commonwealth there are numerous classes of votes which the political leader must consider: The "labor vote"—a force so powerful that he quails before it; the "farmer vote," which he seldom underestimates; the "business vote," the "corporation vote," the "trust vote." Then there is the "slum vote," the prolific soil of political corruption and crime. In the enfranchised States there is also the "woman vote," and no politician fails to give it due consideration. With him it is a business proposition; he knows that it must be won, and he sets about to win it in the same business-like way that he seeks to win the votes of any other class. He knows that candidates must be nominated who will be acceptable to the women voters, and, as women look especially to the character of the men for whom they vote, he seeks to secure the best men of his party for the ticket.

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Perhaps if You Knew.

In a little booklet prepared by Mrs. Carrie Chapman Catt, president of the National Suffrage Association, she calls attention to some interesting facts, as follows:

"Perhaps, if you observed that the opposition to woman suffrage comes from States where women do not vote and is therefore based upon theory, while in no State, where the people have extended the suffrage to women and therefore have had opportunities to observe the effects of its actual operation, has there been any effort to repeal such laws, you might feel more confidence in the righteousness of the same, and be willing to speak a word for it now and then.

"Perhaps, if you knew that the overwhelming testimony from the most prominent, responsible and respected citizens of the suffrage States, agrees that woman suffrage has resulted in better candidates for office, cleaner polling places, quieter elections, and improved legislation, and that women have grown more intelligent, self-reliant, respected and womanly under its influence, you would feel it your duty to work that such results might come to all States.

"Perhaps, if you knew, as many do know, that woman suffrage measures have been defeated in the past dozen years in many instances by well proved bribery, you would declare that a cause so hated by bribers, must be worthy the support of honest people, and you might be willing to contribute something toward legitimate educational work for the cause. Do you realize that women are not disfranchised because 'women do not want to vote; because good men fear the influence of bad women on politics, or bad politics on good women,' as is commonly reported; but because bad men fear the influence of good women on bad politics and fear the influence of good politics over the affairs of bad men?"

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Youths' Parliament.

Prentice A Johnson, Gordon, Tex., writes: *Dear Mrs. Melville*: Will you please admit one more to the Y. P. from away down here in the Lone Star State? I am a reader of the P. F., and think it is a grand paper. It is so nice in the Editor to let the boys and girls have a department of their own, and I know that we appreciate it. I do, anyway. I always read the letters with much pleasure. All I regret is that they do not write enough. I live on a farm four and a half miles northwest of Gordon. I think it is so nice to live in the country where there are so many pretty trees, birds, flowers and ever so many other nice things. How many of you cousins have seen large cattle ranches? There is a pasture joining ours which has about 10,000 acres of land in it, but it is a small ranch compared with some. This county has some of the most beautiful scenery in Texas. Well, I guess I had better quit, as this is my first, and as the waste basket will get it anyway, I will close with love to all of the cousins, if I may call you that. I would like to correspond with some of you at the North. Send your pictures if possible.

Ella Pearson, Springtown, Pa., writes: *Dear Mrs. Melville*: As I see other young girls write letters, I thought I would write one, too. I will be ten years old on New Year's I started to go to school again the first week in September; I like to go to school. I like to read the Y. P., because I like to hear from little girls in other States and about their pets. I have for my pets five little kittens and a big gray squirrel. The squirrel's name is Fanny. We are going into the poultry business. We want to call our home the "White Oak Poultry Farm." I and my brother, who is eight years old, are interested in poultry. We always hunt the eggs and in the evening I write up how many eggs we got that day. I think this would be nice for every young girl and boy who lives on a farm.

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Correspondence.

AuntAraminta writes: *Dear Mrs. Melville*: I just wanted to get up and take my bonnet off to Captain W. DeWitt Wallace and say, "Thank you, sir, for your brave, kind words in defense of woman's rights." Wallace is a grand old name in this county. I have known some of the name who were God's noblemen, and I am glad to see such a telling article on the subject over the name of Wallace, for he has struck the root of the matter; "put the ducks all in a row" and made it plain to anyone who is not willfully blind that there is neither right nor justice in not allowing woman the right of suffrage. I believe that there are many more men of the same mind, only they lack the courage to say so, but as Captain Wallace says, "The world moves and it is bound to come." So it will, and all the opposition that they can put in the way can't stop it, so why do not all the honest men who can read the signs of the times step out and say, "I'll put my foot on the wrong and give my support to the right?" Why can't they, why won't they? Won't somebody rise and tell?

Walpole Nockolds, Oakley, Texas, writes: The cotton boll weevil is making sad havoc with the cotton crops here, but those who followed P. F. methods will come out all right. I raised several hundred chickens; had plenty of honey from my bees, vegetables from my garden, milk and butter, and have just cut a lot of sorghum, pea vines and grass for feed for my cow and horse during the winter, so the loss of the cotton crop is not much of a loss to me after all. My young fruit trees, that I planted in January, made a fine growth, and now have luxuriant pea vines in the middles, except where I had tomatoes, which I am going to sow down in crimson clover the first rain. My front yard has been a thing of beauty all the year, and still looks fresh and green. I have it sodded down in Bermuda grass, interspersed with clumps of lilies ten feet high, masses of red and yellow blooms. Then there are beds of zinnias, pinks, cockscombs, mint and chrysanthemums. Around it, climbing on the fence, are King of the Garden lima beans, combining beauty and utility, as we have had a good many messes of luscious beans. The border is composed of red careless, hollyhocks, standing cypress and Mexican banners. Then the gallery is a mass of luxuriant green vines — magnolia scented moonflowers, Madeiras, Japanese morning glories, balsams, velvet and jack beans and a Crimson Rambler rose. In the kitchen we aim to have everything as handy as possible. All cooking vessels are graniteware and steel. We have a flour bin and sifter combined, food chopper, which is handy for many uses, and other labor-saving implements to make cooking as pleasant as possible. I very often help my wife cook, and always get dinner for her on wash days. Here is a recipe for corn bread which never fails with us: One and a half cups corn meal, one-half cup flour, two teaspoonfuls baking powder, two eggs, one cup sweet milk and half a teaspoonful salt. Beat well together and bake in well greased pan. If too thick add a little water or milk; and if too thin add a little flour or meal. We have had plenty of fine watermelons to eat up until now, but now the vines are dying and melons sunburning. We have had good rains all the year and a good corn crop was made.

Mrs. M. E. Seeley, Huasna, Cal., writes: I have been wanting to send in my little mite for some time, but have put it off from time to time. Now those of you who use underskirts with draw-string, do as I have done. Fasten on each end of gathering string a spike off of any old spike belt. Sew it on firmly through the small holes, and if it does slip back in the skirt for some inches it is easy to pass it right back, as it is pointed and will slip along easily. Try it and see if it is not a good thing. Another thing I wish to say is, I am afraid many women put eggs right into the teakettle and never stop to wash and rinse them. It is one thing I have taught all four of my girls. I think it is a dirty thing to do to not wash them first. Another thing I so dislike to see is a person drying dishes on a dirty dishwiper. It is easy to have clean ones if one tries. It don't take but 30 minutes to wash out a number and dry them. One thing more; where water is hard and soap is used in dishwater, just put in a half pint of sweet milk and then rinse the dishes in very hot water and they will be so nice to dry. My way of making onion salad is as follows: Peel two mild onions, slice real thin and pour on hot water with a pinch of salt. Let set for 10 minutes, then drain off and mince up to suit and put on thick cream and sugar and vinegar to taste. It is real good.

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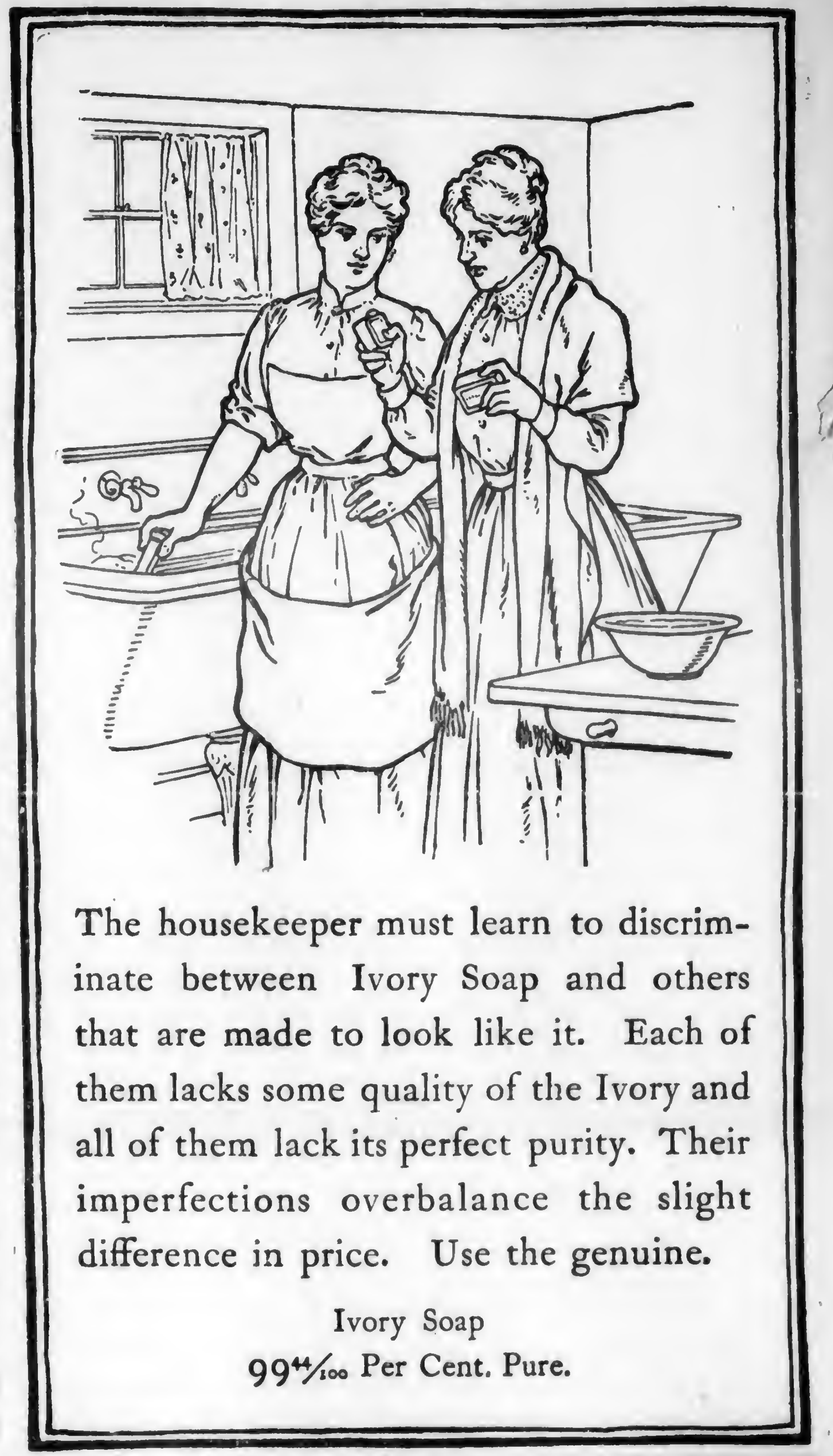
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Topic No. 594, Oct. 17.—*Give Your Experience in the Growing of Winter Squashes and the Best Varieties.*

Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 592.—The Farm Hand. Do You Find it Best to Have Young White Men in Your Family or Married Men in Tenant Houses?

J. B. Johnston, New Wilmington, Pa.—I have had experience with hired help in both ways. If I have abundant household help, and can be sure of always getting competent young men of good character, I would much rather have the single man in my family. But if my wife has the care of a family of small children, and doing much or all of the household work herself, I have no right to add to her work the boarding of strange men. Our wives are all so willing to do their share that they are often imposed upon, and do much more than their share, with the result that they are worn out and broken down before they have lived half their days. We should not make a boarding house of our farm home while the wife is rearing a little family. We should have a tenant house for our farmer, or if living near one of the industrial centres, where it is almost impossible to get such single help as we want to take into our families, we must have the tenant house.

Albert Murphy, Gordonsville, Va.—I have had the best satisfaction by selecting young men of good character, who had the mark of success plainly stamped on their countenance. Such young men give careful attention to little matters about the house, as well as on the farm, and are not a burden added to the household cares. For extra help in summer we have found it very satisfactory to take in our family young men who wanted farm work in summer to enable them to go to school in winter. Their interest in education was helpful to our children. We could contract for the services of such young men months ahead without fear of disappointment. Thirty years ago we hired and took into our family a well recommended young man of excellent character just from England. At first he knew hardly anything about a team or farm tools, but he was patient and persistent in learning, and was soon a most useful farm hand, and almost indispensable about the house. He lost no time and wasted no money, and in a few years was a land owner. The three years he was in our family he was never known to speak an unkind word to any of the family or the stock. His industry, honesty, kindness and cheerfulness were influences that changed the destiny of our lives. He now has a large farm and a pleasant family, while his influence for good still lives in ours. When good young men are not available, or where more men are wanted than can conveniently be taken into the family, tenants in houses are far better, and in many cases the only means for getting help on the farm. To take into the family a man of low character, untidy, or indifferent to the welfare of the home is an imposition upon the family and degrading in its effects.

J. W. Freeman, Nocatee, Fla.—Our Editor's opinion on this topic is well known to all old subscribers of the P. F. I have great respect for Prof. Massey's views on most subjects. They are usually as sound as a gold dollar. But I have often been amused, and sometimes amazed, at his ultra Southern views on this subject, and his seeming inability to comprehend the conditions that obtain in the North on this subject, particularly the social side of it, considering that he has lived many years very close to the Northern border line. And the social side is the one the Professor most strenuously objects to. He certainly gives the impression, intentionally, or otherwise, that anyone who hires out to work is not good enough to be admitted to a social equality with his family, even though they be high-class laborers, such as the expert greenhouse gardeners whom he once employed, and for awhile boarded with his family, under protest, as it were. I think there are any number of young professional men in cities that he would probably not object to admitting socially in his family, who would be far more dangerous to the happiness of that family than an honest young farmer who was working by the month temporarily to get a start for himself, though the city dude's hands would no doubt be cleaner, whiter and softer than his. In the North and the gardening section of the South farms are usually comparatively small, and your hired man is apt to be one of the stalwart sons of your neighbor, who has brothers enough at home to do the work. His father is as wealthy as you and perhaps more so. Six months ago, while at home, you would not dream of his not being the social equal of your family. Is he not as good when working for you as he was six months ago? It may be hard for the Southern mind to believe that anyone will work who is not compelled to, but there are some people who will. Another objection with some is that they do not want to turn their home into a boarding house, and do not want their wives to slave cooking for hired hands. If there are several girls in the family and only one or two boys to help outdoors, this may not be a hardship, but a division of labor. The advantage of having your help in the house is that he is always ready to go to work in the morning, and no time is lost if there is a change of plans owing to weather, and while the difference in wages is no more than what he would have to pay for board, the actual cost to the farmer is less, as the table is largely supplied from the farm. On large farms, where many men are needed, it is better to have men living in tenant houses, but for small farms and truckers requiring one or two hands, we think boarding them in the family is both cheaper and more convenient. Of course it goes without saying that no man not morally sound should be admitted into the family. Now do not think that I am a crabbed old green Yank, just landed here, who is soured on the country. I have been here nearly 14 years and like the climate—the best there is in the world—the country and the people.

[We have given our friend full chance to air his views, though he evidently does not understand the position of the Editor. There are plenty of people here who work hard, though not compelled to do so. In the North Carolina College of Agriculture and Mechanic Arts it is fashionable among the students to work, and the working man is more highly esteemed than the one who attends college on his money. Some students earn money by waiting on the other students at table, and lose no social caste by doing so. Others work in the barns and stables and on the farm and in the shops, and earn their education, and the man who is too proud to do any sort of work loses caste socially. Students who wear their overalls daily are welcome visitors in our family, and no one here thinks a man demeaned by doing any honest work. It is not the fact that a man is a laborer that would cause us to object to boarding him when in our employ, but merely the fact that we regard our family as something in which the privacy of the family circle is interfered with by having strangers in it. Laboring men who are decent are always welcome as visitors at times, but we simply do not want to keep a boarding house of any sort, or to load our wife and daughters with the care of outsiders. In the family circle we are satisfied with certain foods that the ordinary laborer does not care for, and the boarding of them necessitates extra cooking and the providing of materials which none of the family want or care for at all. Years ago, when we were boarding gardeners, Irish, Scotch, English and other classes, there was always something to be provided to please each, and we would not undertake the task again for the best young men to be had. Hence we like the negro, for he is no trouble whatever, and even when boarded on the place is content to eat what is set before him, and who commonly prefers to board himself. We do not know how it is in Florida, but our market gardeners, some of whom work 150 hands during the season, all work the negro, and we really know little about white labor here. Even the foremen on the large truck farms are negroes, and they make the best of overseers for the colored labor. There is hardly a Sunday evening when there is not one or more young men at our table as visitors, who have been working on the farm or waiting on the table all the week at every interval they have from their studies, and no one here thinks of considering them inferiors because they thus work. So our friend has misjudged the motive that would prevent our taking a farm hand of any sort into our family as a regular boarder. We have found that it costs more than it saves.—ED.]

Mrs. J. C. Wheeler, East Scott, N. Y.—We have tried both ways, and think it is best to have married men. I think the ideal way is to have a tenant house near enough so that the hired man can board himself. It makes it more pleasant for both families. A married man is usually more steady and less apt to lose time, as he sees the necessity for earning all he can. Then it is more pleasant to have our evenings and Sundays to ourselves, and it makes less washing for the farmer's wife. We hired a city boy one year, as his mother was anxious to have him on a farm for his health, but he was homesick from the first, and soon found a position in a shop and left us without any warning, only staying about two months.

[Yes, the having one's family to itself evenings and Sundays is a great thing, no matter whether you think yourself above the laborer or not, for that has nothing to do with it, for the farm hand that is socially one's equal and pleasant as a constant family associate is the exception and not the rule anywhere, we think. Then to a Southern man the wife having the washing of the family to do is something we seldom understand, for the laundry woman usually takes the wash away weekly and returns it at the end of the week, and though often done on the place it must be a very poor man who has his wife to do it. A farmer's wife, with a family to care for, will have all that she should do without washing.—ED.]

Wm. Lee, Marietta, Ga.—Never again will we have any hired help to stay in the family if there is any other way to get help. It puts a great deal more worry and work on the wife than we feel disposed to do. If men would but think and investigate the work and worry there is connected with hired help in the family to the wife, we do not think they would ever have one there. We like the privacy of the family circle. We want to feel perfectly at ease in the dining room and around the family fireside and in all parts of the home. The most pleasant time in the day is when we can settle down and chat over the events of the day, and reading good farm papers and books. We might tolerate and put up with the inconvenience of a good and intelligent young white man, but there are so few of them who would use the right language before children, and be guarded in their conduct. Good married men are, as a rule, more reliable, and will work more steadily than young men. We find that the man with a family, who has run up against a few of the hardships of life, has better staying qualities than the unmarried man. The young man is usually a great air-castle builder and has not seen the serious side of life yet. A married man who has any appreciation for his family and home usually makes a good hand, and we prefer such a one to having hands in the family. He is never in the way.

[Our friend hits the nail on the head. It is not the matter of social equality, but the privacy and freedom of family life that we should guard from anyone, no matter what the man is.—ED.]

F. J. Adkisson, R 13, Nashville, Tenn.—On this topic our and the Editor's opinions are the same. We do not believe in making the farm home a boarding and lodging house for the hired farm laborer. It may make or save a little more money to keep the hands in the home, but life is not all a matter of dollars and cents, and in the long run we think it more satisfactory to have some other system. The intrusion on the privacy of home life, the associations and the extra work, largely thrown on the women, should secure due consideration. Here we prefer to furnish married men, white or black, a little home and garden spot, even if it does cost us a little more, and we will not keep hired men in our home so long as we can avoid it. We know that sometimes when only one or two men are wanted it may seem more profitable to board them, but we will not go into the boarding house business yet awhile.

Mrs. M. O'Brien, R 13, Fredonia, N. Y.—The kind of farm help best on the farm must differ in various localities. In the North, where farms are large, married white men in tenant houses are advisable, as the farms are large enough to furnish a second house with fuel, fruit, etc., and so much work is saved in the home by not boarding the help. But in the fruit-raising and gardening section, where many make a good living on a few acres by raising vegetables and fruits for shipment and for the local markets and canning houses, I consider unmarried men best. Have had no experience with colored help, as there are no negroes here.

C. W. Beam, No P. O.—My preference is for the man with a family, for there is not one boy in ten who works as a hired hand, who cares for aught but to pass off the time. The boys, either white or colored, had rather be hunting a job than working out one. A man with a family cannot so readily migrate, and has also learned much of the importance of the work and pleasing the "boss." And more than this, the cooking, washing and ironing for hired hands, besides often a large family of one's own, is an item that needs serious consideration.

A. G. Higgins, Belwood, N. C.—Our experience with single young men boarded in the family, as compared with married men, has been in favor of the tenants. A farm hand in the family means a heavier burden for the wife, who usually has as much as she can bear without him, and often more than she should bear, in looking after the welfare of her own family. While none of us hire men or boys as associates or playmates, they become so to a greater or less degree. Who has boys who have not learned something good or evil from the hired men? The hand on hand at all times is very convenient. But the extra bedmaking, laundering and general cleaning up put on the wife overruns the profit. While the average farm hand is not fit to be a member of a respectable family, we have had more than one young man in our family whose habits were good, and they have risen or are rising above the ordinary farm hand of this section. The majority of the farms in this section are small, but owners well-to-do and independent.

T. A. Shuff, New Berlin, Ill.—After many years experience with single men in the family and married men in tenant houses, I greatly prefer the tenants. Here the land owner furnishes house and small patch of ground for a garden, a cow or a certain quantity of milk per day, and in some cases pasture for a horse. The wages are from $5 to $10 more per month than the single man gets, but this difference, it seems to me, is more than balanced by the cost of board for the single man, the extra room that must be cared for, the additional washing and ironing, during some seasons of the year, the early breakfasts and late suppers which must necessarily be prepared. A married man has the care of a family, and consequently is sober and industrious, keeps regular hours and is on hand when wanted. But do not have a tenant house too far from the farmhouse and barn. A telephone will remedy this mistake, of course.

Beatrice Turner, Angwin, Cal.—We generally have young white men as farm hands in our family. They are treated as one of the family and made to feel at home as much as possible. They eat at the family table and have rooms in the house, and spend the evenings, if they desire, in the family sitting room. Of course there are young men with whom we would not care to have our daughters associate, but in a neighborhood where everyone knows everybody else we are better able to judge of their value. How many young men might be helped from going into saloons and questionable places of amusement if employers would treat them more as one of themselves, and consider that "a man's a man for a' that," if he does have to work for a living. Few farmers here have married men in tenant houses, as most of the hired help are young men of the neighborhood, who have to paddle their own canoe.

E. C. Pittman, Poindexter, Ark.—If I had the opportunity to choose I would prefer the married man in a tenant house. But in Eastern Arkansas we do not have that phase of the labor question, our labor being all colored. We have to study their comforts very little. They are a migratory people, and spend their winters and summers in the nearest towns, only coming out to the farms in spring and fall, and if we can furnish them with any kind of a house they will stay in it, dozens at a time. But the majority of farmers would gladly welcome any change that would make them independent of this happy-go-lucky class of laborers, even if they did have to prepare better accommodations for white hands.

Walpole Nockolds, Oakley, Texas.—I would prefer married men in tenant houses, as they are more settled, do their own washing and cooking, while if one has young men in the family they have to be cooked and washed for, and if the moral character of the hired man is not what it should be, the children would be injured by his company. Then, too, most women have as much as they should do to work for their own family, and an extra man is often the last straw on an overworked wife. Then the married man is not so apt to get tired and quit in a busy season as many single men will.

J. E. Fischler, R 3, Wellsboro, Pa.—Have had men in my family and it has been unsatisfactory. I think that it is much better to have tenant houses and hire married men. The rent will pay for the house in five years. Here we can hire a married man, who boards himself, nearly as cheap as a young man and board him. The board will cost $10 a month, to say nothing of the inconvenience of having a stranger in the family.

E. E. Lawrence, Spafford, N. Y.—The farm hand problem is a serious one here. Most young men of ability prefer the chances in the city to those of a farm laborer, and it is not always a choice of who we will have, but more often we are glad to get any. I believe that, as a rule, the married man in a tenant house is more satisfactory, though you have to pay them more and furnish house and garden. This is not practicable with some small farmers, so they have to hire the single man and board him. But where one can afford the married man it takes a great deal of work out of the house, and the quiet peace of the family is not disturbed as by the single men who are often away in the evenings and return late at night.

E. H. Mish, Inwood, W. Va.—It is not advisable to have young men as farm hands in your family. Sometimes they are of good family and do not care to be treated as farm hands, and again they may tend to corrupt your family, as they may have bad habits, such as swearing and using tobacco or liquor. Often there is not room in the house for him and he does not want to sleep in some out-of-the-way place. Do not have them in your house, but hire in the busy season by the day. While you can always depend on a man in the house, you cannot always do so with the man in a tenant house, who may excuse himself that he had to go an errand or overslept himself. Doubtless there are better classes of farm hands in other sections. Ours simply want a few days' work to get spending money. When you do get a good tenant pay him above the average and keep him, for such are hard to find. Farm hands of any kind are hard to keep, as they like to try town factories. A tenant hand that can be relied upon is the man to keep, but they are scarce here.

C. J. Moore, R 2, Morrisville, Vt.—Farm hands are scarce. We know of married men with families who are getting $26 to $30 per month and board, with house, wood and milk furnished for the family free. Single man as you would care to have in the family, for about the same price per month. Our best farmers here hire single men. House rent, wood and milk would bring the wages of the married men up nearly to $40 per month. So the single man is preferred here.

W. D. Latshaw, Carlisle, Ind.—I do not employ a hand now except for a day or two occasionally. In former years I employed a man through the crop season, and always a young white man. I found this unsatisfactory, as it was not always easy to get such a man as you would care to have in the family, and even if I had such a one I would prefer the married man, as the young man, not being permanently located, is more apt to drop out unexpectedly, and often in the most busy time if his demand for more wages is not complied with. Then as soon as the day's work is over the young man is off and returns late at night to disturb the family. If a wet spell comes and work is temporarily suspended, he is off and not to hand when needed. But the married man, with a family on his hands, is anxious to put in all the time possible, and when you want him you know where to find him.

J. N. Glover, Vicksburg, Pa.—Owing to the trouble to get good boys on the farm now, I think it would be better to have a tenant house and have a family in it who would help with the work. This will save the washing, mending and boarding of the farm hand, and the married man with a family living in the tenant house will be more apt to stay his time out than boys hired by the month.

SUMMARY.

The general opinion seems to be in favor of the tenant house and a married man. There is another advantage in this, if the man has only himself and wife, that his wife will often be glad to help with the work of the household, such as washing and mending, and thus increase the family income. The Editor's position has been pretty well defined. We have tried the white men in the house and want no more of them, even if, as our Florida friend says, they may be "as good as I am," for that has nothing whatever to do with the matter. It would make no difference if they were better, for it is the mere presence of an outsider in the family circle that is objectionable, and the farm hands who are not socially objectionable we rather think are very scarce anywhere. We would again say that contributions on dark paper in pale pencil are always turned down. White paper and pen and ink are cheap enough anywhere for all to use.

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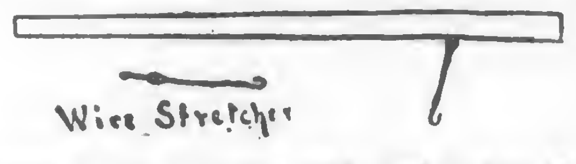
SHORT CUTS.

BY PRACTICAL FARMER SUBS

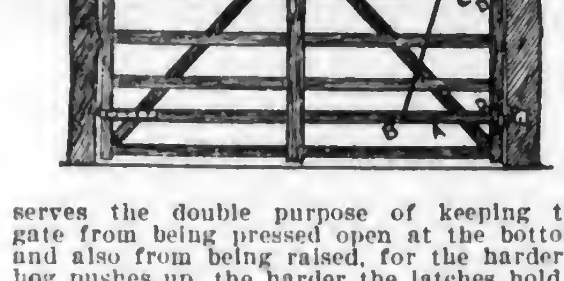
All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

A Good Wire Stretcher can be made cheaply, as shown in cut. Cut a pole 5 or 6 feet long, any size preferred. Get a bolt; cut off head and bend back; put through pole about 12 inches from butt. Now take a piece of iron 10 inches long; link to bolt as shown in cut; make hook at other end to hold wire. This is the best stretcher I have ever seen. I. G. HIGGINS.
Leicester, N. C.



How to Fix the Clock.—When the clock stops try your hand at fixing it by the following directions: Take off the pointers and the face; unhook the pendulum and its wire; remove the ratchet from the "tick" wheel, and the clock will run down with great velocity. Let it go; the increasing speed will wear away the gum and dust from the pinion, and the clock will clean itself. Take some machine oil, put the least bit on the axles. Then replace all parts exactly. This is the way most clocks are repaired by clock-makers. You can save a dollar by doing it yourself. LONA KIMBEY.
Oakdale, N. C.

Hog-Proof Gate Latch.—This is made as shown in illustration. The latch pieces, C, may be cut any length desirable. Fulcrum them at A and attach a ⅜-inch iron rod at B, letting it be the same distance from A to B on each latch. Place guides, D, so as to allow free action of the latches. This latch serves the double purpose of keeping the gate from being pressed open at the bottom, and also from being raised, for the harder a hog pushes up, the harder the latches hold in their catches. A little axle grease placed on all bearings will insure a perfect working latch. Be sure and have top latch heavy enough to drop promptly, for it has to push up the lower one. HOMER TINSLEY.
McCreary, Ky.



Good Mouse Trap. — Take a piece of hickory and whittle out thin so it will bend double. Tie it together near ends, spread it open and put a piece of bread with butter on, or a piece of cheese in it, and it will spring shut and hold it. Now put a small basin on it so it will slip off easily, and have the bait under the basin, and the mouse will go under and begin to gnaw the bait, and the basin will drop over the mouse. MABEL BABCOCK.
R 20, Goodlettsville, Tenn.

Cheap Picture Frames.—Many of my sister readers of the P. F. love to do fancy work, while others, no doubt, cannot afford to do it on account of the cost of materials needed. Now I have just found out how to make picture frames out of wall paper. Take a piece of cardboard, or common pasteboard, cut an opening the size and shape you want it when finished, cover the front with sheet wadding, then cover this with any pretty wall paper you may have on hand. That with flowers is very pretty. Spread smoothly and paste around the outside edge first, then cut out the opening, allowing for pasting on the back, and paste around this opening and you have a beautiful frame. You cannot know how pretty they are until you see one of them. MRS. MAGGIE RITCHIE.
R 2, Macedonia, O.

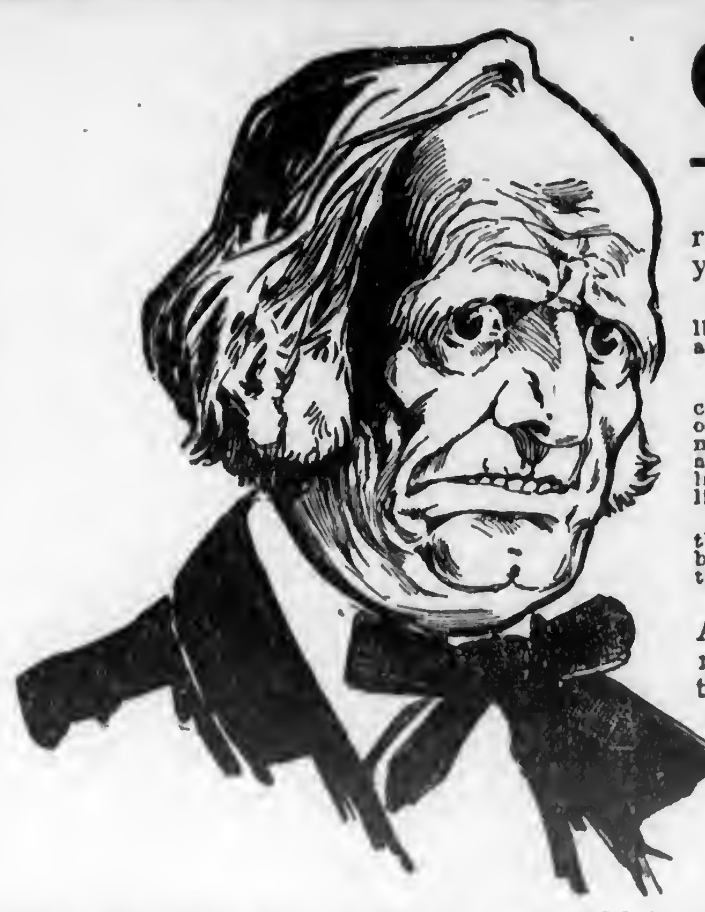
Cold Boiled Potato Mucilage.—One of the best short cuts to convenience I have tried recently is the one my attention was called to some time since about mucilage that I never needed or found just convenient to use until yesterday. In fact, I had but a tiny bit of faith in its working. Take a cutting of cold boiled white potato and rub on the edges of papers that you want to join and they adhere beautifully and securely. It is splendid for those who want to use the P. F. cards in transmitting change.
Butler, Ky. A. E. A.

Care of Grindstone.—When a stone is new it is readily hung true with patent hangings. Sometimes a side is softer, or from being left in the water wears away faster. Set a spade handle firmly against the ground and edge of blade so it will catch the highest spots and the stone is readily turned down smooth and true. If too badly out of true for this, hold a lead pencil to each side while revolving so as to mark the greatest possible diameter. With a marble cutter's chipping chisel, or one made from a piece of buggy spring, or even a large cold chisel held sloping well upward just over the pencil mark, strike with a hammer and chip carefully from each edge of stone to centre. This will leave a ridge in centre of stone. In the same way chip off this ridge, beginning where cut is shallow and holding chisel parallel with face of stone. When down to one-half to one-quarter inch of pencil marks, finish by turning down with spade. Always wash off the steel and grit from stone after use and it will prevent the hard glaze forming on the surface. If stone becomes badly glazed it may be eaten off with strong sulphuric or nitric acid, or turned off with a spade. If you want to grind rapidly let the grit form a paste on surface of stone rather than to run the stone in a trough of water.
Davison, Mich. E. HOLLENBECK.

Uses of Kerosene.—I have just been reading some of the ways of using kerosene which are so good I will pass them on to P. F. readers. A tablespoonful of kerosene in the boiler will greatly aid in cleaning the clothes. Oilcloth rubbed with a cloth dipped in kerosene will look much brighter. Kerosene will also brighten silver and remove rust from steel, and will clean soiled spots around door knobs without injuring paint.
R 4, Utica, O. ORRA MCFARLAND.

Lines Under Wagon Tongue.—To prevent lines from getting under end of tongue, take an old piece of inch rubber hose, about three feet long, run through eye of strap at end of tongue until half way through, and fasten. The lines cannot get underneath.
Cazenovia, N. Y. LEWIS W. DAVIS.

Household Hints.—Try making gingham aprons large, with a generous bib. Then make oversleeves of calico or gingham. Cut straight, about 6 inches wide when double, and long enough to come above the elbow. Gather into a band at wrist large enough to put the hand through; pin up with a safety pin. Should you get callers they can be slipped off in a moment and your dress is clean. Have several pairs. They are easier washed than dresses. Then there will be no need of wearing dirty, ragged dresses about your work. When making dry yeast leave out the potatoes and salt and your yeast will dry quicker and be just as good. There is a splendid recipe in the Practical Farmer Cook Book. If you haven't one, get one. It makes a valuable wedding present for a young housekeeper; some older ones, too.
Damascus, O. RACHEL ARMITAGE.



Constipated Old Age

Isn't it too bad that so many people, when they get old, get cranky and rickety and mean, and don't feel right toward themselves or anybody else; yet it need not be so.

"Cascarets make me feel so light-hearted and lively, that though I have seen three score and three, a few more scores I yet may see." —James S. Millar, Villa Park, Cal.

"For many years I have been troubled with constipation. I used one 25c and two 50c boxes of Cascarets, and they have effected a permanent cure. Since my discharge from the army in 1865, I have never before found a lasting remedy."—H. J. McGwern, 949 Chapline Street, Wheeling, W. Va.

"I was troubled with something that baffled the skill of physicians for 35 years; I used five boxes of Cascarets and am in better health than ever before." —C. C. Redick, Chase City, Va.

"Six month's ago I took Cascarets for constipation contracted during the War of the Rebellion. The result is wonderful and I advise all old soldiers to try them." —Jas. Putman, late Capt. 53rd Ill., Haney, Wis.

"I was feeling bad, losing flesh, had dull headache, cold feet, and couldn't sleep well. I took Cascarets, and in four weeks gained 15 pounds. Am feeling fine now."—A. B. Story, veteran Mexican and Civil Wars, Epworth, Ia.

"I have been using Cascarets for some time for constipation, and their greatest benefit has been to cure me of asthma. I am in my 86th year and had been suffering with asthma for years." —T. M. White, Bob Lee, Georgia.

All old people's muscles get weak and flabby, and it's the same with the muscular walls of their intestines as with the muscles of their arms. When the bowels grow weak, the old folks get constipated, bilious, sick, helpless, irritable, and that's the chief cause of their death. Old folks should take Cascarets Candy Cathartic bowel tonic, keep their liver lively, their bowels regular and strong, and live to be a hundred.

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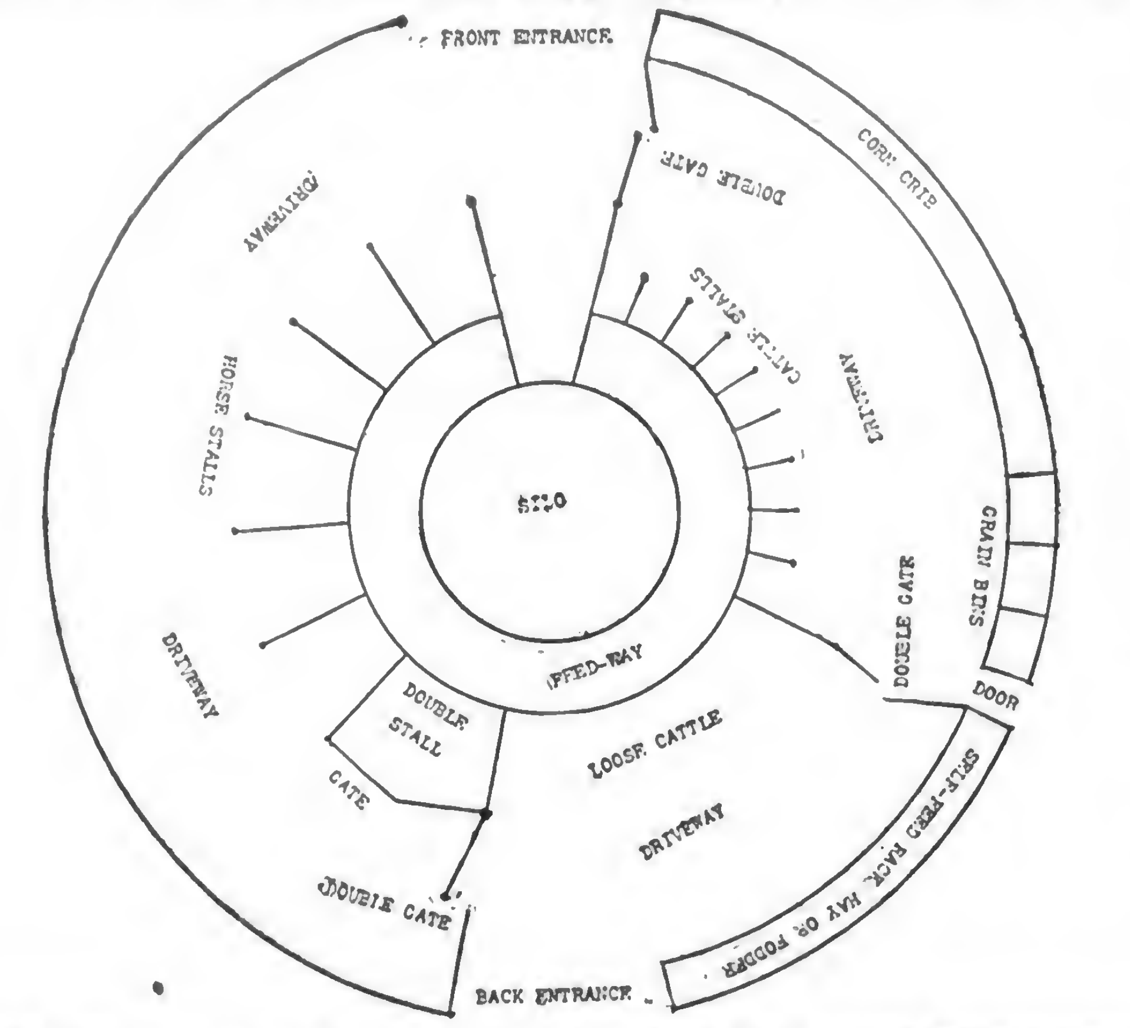
Mistakes, Failures and Successes.

In this department we publish the **Mistakes, Failures and Successes of our subscribers.** They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Circular Barn.—Last spring I built a circular barn, something new and entirely different from the old style, which I think is a marvelous success. For convenience in feeding and handling stock I believe it is far in advance of anything in square or oblong shapes that can be built, and is less liable to be damaged by wind. It is also more roomy, and if any difference, is a little cheaper than a square barn enclosing the same number of square feet. The ground floor from feedway out is cemented. I can drive in at front and out at back door, or *vice versa*, or entirely around and out the same door. All manure is kept in the dry on the cement and is easily removed. The mow floor only comes in to feedway, leaving a space of 5 feet between silo and mow to throw down feed anywhere on circle; silage is fed in the same feedway. The foundation is solid, siding 20 feet, roof cone-shaped and self-supporting, resting on walls only, no timbers in mow. Hay is taken up on a circular track. I fed 27 head of cattle in the barn, besides horses and hogs. I enclose herewith a drawing of the ground floor, hoping that some of my brother farmers who anticipate building may be benefited thereby.

Pendleton, Ind. J. W. SEARS.



Hints for Housewives.—To prevent tin teapots from rusting and having holes in them, if any tea remains in the pot, pour it off into some dish, then rinse and scald the teapot and dry it. It will last much longer than it otherwise would. To obviate the necessity of washing bed quilts I buy 8 yards of almost any kind of calico, sew the three breadths together and hem the ends. This covers the bed nicely without fastening it to the quilt, and is much easier to wash than the quilt. When I buy a new oilcloth for the table, there generally is some part of the old one that I can put to good service by laying it upon the new one when washing dishes or doing any work that would be likely to soil the new one. By so doing I make one last three times as long as it otherwise would. I would like to tell the ladies of the plan I adopt in making my bread. When getting my dinner the day before I want to bake, I scald flour into the potato water, stirring it in until it is a little thicker than pancake batter, then let it stand and cool until it is about as warm as new milk. Stir into this a yeast cake that has been soaked, let this stand until near bedtime, then put it into a big sponge in my bread pan. In the morning it is light enough to mix into a large loaf, which I do before breakfast. By adopting this plan my bread is baked early in the day. Let some of the ladies try this and see what beautiful bread they will have. Will not some of the ladies inform me through the P. F. how to put up crab apples so they will keep? have made sweet pickles of them, also put them up in sugar syrup and they have spoiled both ways, or become so sour that they are not very palatable, and I do not know what to do with them.

[Will the writer of the above please send name and address?—ED.]

To Preserve Rail Fences.—For the benefit of those who have rail fences adjoining woodlands, and who wish to preserve them, as all should do, we give a neighbor's plan of preservation. Along in the summer, generally in August, he cuts down all sprouts, trees and bushes back from the fence a distance of eight or ten feet, or even more, giving as a reason for so doing that the sun's rays are given a fair chance to strike the fence after a rain, causing it to dry out quicker and preventing decay at the corners where the rails cross each other. This is where they dry out last and will rot first. We think the reason which our neighbor has given is a good one, and after seeing it tried, we think it an excellent plan.

Kent, Mo. L. W. BARNETT.

Drying Corn.—Take corn that is ready for table use. Husk and silk it and with a sharp knife split every row of grains, then cut the corn off of the cob. Put a paper in bottom of bread or dripping pan and fill two-thirds full of corn. Place in a moderate oven and stir often. It may get a little brown, but that doesn't make much difference except in appearance. Leave in the oven two hours longer, then dry in the sun away from flies, etc. This corn will not get wormy, and is so much better than when dried in the old way. I dislike packing corn with salt, because the three days' soaking ruins the strength and flavor of the corn. When one wants to get up something quick for dinner, the dried corn can be got ready at short notice. A friend says to can corn put in a pan enough for seven quarts, cook until tender and just before canning dissolve one ounce tartaric acid in water; stir this into the corn and can. Have no corn now or would try the plan this year.

Elliott, Ia. MRS. H. F. REYNOLDS.

Whitewash for Buildings and Fences. — If people generally knew how easily whitewash is made and how valuable it is when properly applied, it would be in more general use. It not only hinders the decay of wood, but conduces greatly to the healthfulness of all buildings to which it is applied. To outbuildings and fences which are not painted, there should be applied once or twice a year a good coat of whitewash, made in the following way: Take a clean, water-tight barrel and put into it a half bushel of lime. Slake it by pouring boiling hot water over it in quantity sufficient to cover it to a depth of five inches, stirring briskly until thoroughly slaked. When the slaking has been thoroughly accomplished, dissolve the lime in water and add two pounds sulphate of zinc and one of common salt; this will cause the wash to harden and prevent its cracking. L. J. SHENK.

Elida, O.

Grape Jelly Without Crystals. — So many object to making grape jelly on account of the glass-like particles, or crystals, that form in the jelly when it sets awhile. If the grapes are cooked and strained in the evening and the juice is allowed to stand over night, there will be a lot of thick settlings in the bottom. Drain off the juice carefully, so as not to get the settlings. Now make your jelly after the juice has stood over night and there will be no crystals in the jelly. Those who have been troubled with the jelly crystals should try this method. I think grape jelly is as good as any kind when free from crystals.

Corydon, Ind. MRS. C. C. HUBBARD.

The distracting headaches from which so many women suffer make life a daily purgatory. If men suffered with headache as women do, business would be almost at a stanstill. Does not the fact that men do not suffer from these severe headaches suggest that there must be a womanly cause for them?

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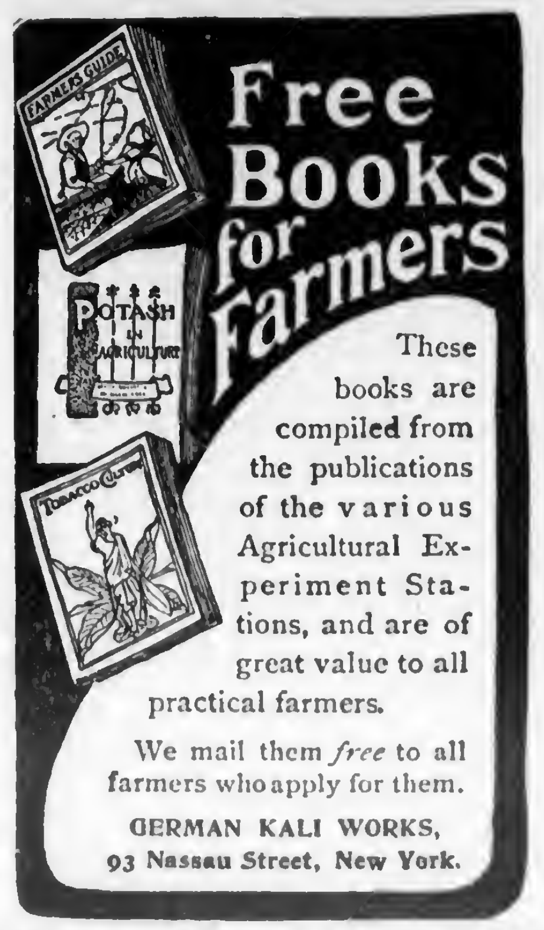

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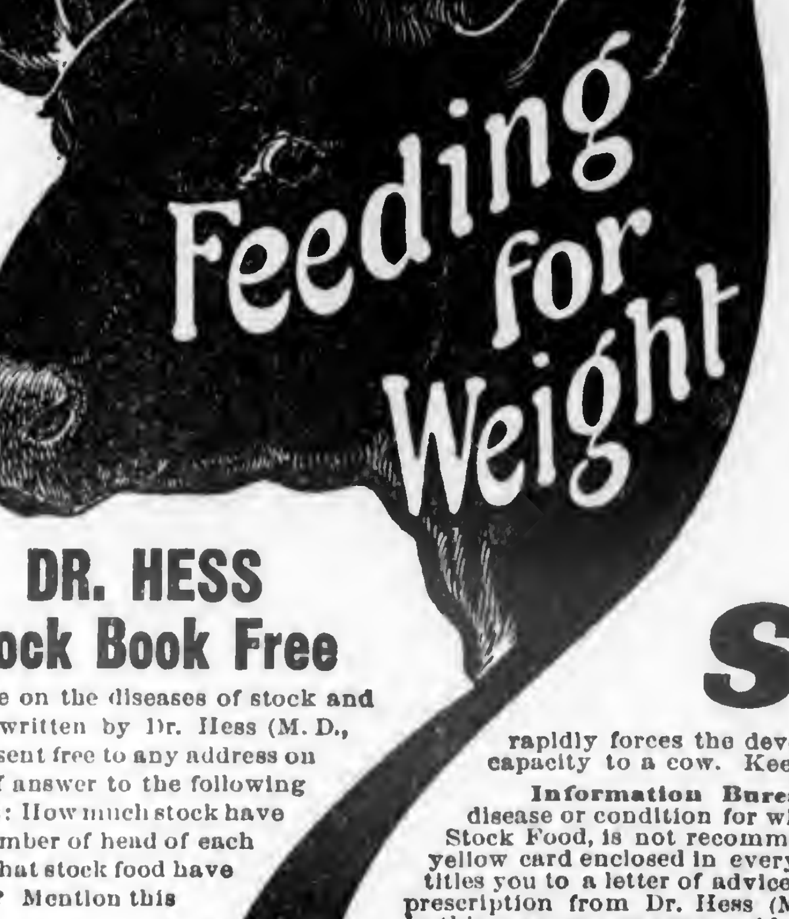

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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Steele Co. Beautiful little city of 7,000 population, on the Straight River, the crookedest little stream you ever saw. Steele county claims more creameries to its area than any other county in the State. Crops only fair; too much rain; corn and oats will be scarce; old crop sells at 55c. for corn and 35c. per bu. for oats; hay plentiful at $6 to $8 per ton; potatoes, 35c.; apples plentiful at 50c. per bu.; farm help, $25 per month; female help scarce; getting married or teaching school.

EDWARD LAFOT.

Owatonna, Minn., Sept. 19, 1903.

Located in historic old Adams Co., near the Ohio River. Weather very dry, broken now and then with a light shower of rain. Very little plowing done; ground too dry and hard; no corn cut yet, and unless frost holds off late a great deal of it will be injured, as much of it is very green yet. Fairs in full blast; at least five in this county alone, and all promise to be very successful. Stock scarce and bring good prices; but very little local demand, on account of prospective shortage of corn crop. WM. C. GRAHAM.

Box 33, Cedar Mills, O., Sept. 22, 1903.

Located 5 miles from Farmville, in Cumberland Co. Farmers are very busy now, cutting and curing tobacco; some cutting corn, also gathering and hauling tomatoes; some second crop hay also being cut. Wheat crop was very poor; corn crop is very good. Weather fine now; warm days and cool nights. Tomatoes are rotting; cause unknown; price at cannery, $6 per ton; wheat, 70 to 80c.; corn, 65c.; oats, 38c.; potatoes, 50 to 60c.; sweet potatoes, 50 to 60c. per bu.; cabbage, 1½c.; butter, 18 to 20c. per lb.; eggs, 15c. per doz.; chickens, 12½ to 25c. each; hens, 30 to 40c. each; Virginia cured hams, 15c.; sides and shoulders, 11 to 13c. per lb. MRS. E. B. LANGSLOW.

Box 33, Farmville, Va., Sept. 23, 1903.

Twelve miles from Jasper, the county seat of Walker Co., on Northern Alabama Ity. No rain in August, and little in July. Cotton is late; corn badly injured by the drought; gardens all burned up. No feed on the range; cow pea hay being put up. Farm help scarce. Prices of produce: Irish potatoes, 75c.; sweet potatoes, $1.25 per bu.; butter, 25c. per lb.; eggs, 15c. per doz.; chickens, 25c.; watermelons, 10 to 25c. each; land, $2 to $5 per acre. W. H KESSLER.

Prospect, Ala., Sept. 21, 1903.

Weather very seasonable, except too much rain in May. Crops that have been tended in fine condition; cotton three weeks late; if we have an early frost a large percentage will be cut off; two-thirds of the cotton crop not half worked; grass higher than cotton. Negro labor—the sorriest thing under the sun—our only chance, when one has not his own force; men that have are getting to the front. Tobacco not worth curing—will not bring half the expenses; fine crop of it, though worms are eating it up on the hill; can't save it, as it brings nothing on the market. Cotton worth 4c. in seed, 10c. in lint; cows, $25 to $50; pigs, $2 each; chickens, 15c. per lb.; eggs, 15c. per doz.

MRS. A. A. WATKINS.

Manson, N. C., Sept. 22, 1903.

Manlius, N. Y., on Suburban R. R., 10 miles east of Syracuse. Third cutting of alfalfa, the last of three good crops, in barn. Weather fine for the last two weeks. Alfalfa sells here at $10; timothy, $13 per ton; butter, 24c.; cheese, 13c. per lb.; eggs, 24c. per doz.; chickens, 12c. per lb.; potatoes, 50c.; tomatoes, 50c.; oats, large crop, 32c. per bu.; apples a large yield of fine fruit; no market as yet; ensilage corn a very heavy yield; field corn fair. Farmers prosperous. Most of the milk goes to New York, average price $1 per 100 lbs.

F. P. EMMONS.

Manlius, N. Y., Sept. 22, 1903.

The Palouse country is situated in Eastern Washington and Northern Idaho; is famous the world over for its large yields of small grains. The crops are 75 per cent. of last year's yield, which was a bumper crop; but prices will give the farmer more money than former crop. Weather fine until the past ten days, when rains began, catching most of the crop in the shock; unfavorable weather indications still last. Prices: Wheat, 69c. per bu.; oats, 80c.; barley, 70c.; potatoes, 75c.; apples, $1 per cwt.; cows high, also are good, large horses; hogs, 5½c. per lb.; farm land, improved, $25 to $40 per acre. Country in very prosperous condition. C. M. GRIBBE.

Palouse, Wash., Sept. 16, 1903.

The cotton crop will be short; it is being destroyed by caterpillars, rust and boll weevil. It is thought that the crop will not exceed 50 or 60 per cent.; peas are fine; they are bringing a fine price at present. Cotton, middling, 10⅞c. per lb.; corn, 90c.; meal, 90c.; potatoes, $1.25; feed oats, 90c. per bu.; bacon, 10 to 11c.; coffee, 10 to 15c.; butter, country, 20 to 25c. per lb.; sugar, $5 per cwt. Sweet potatoes are not very good; there is a good demand for them and are bringing a good price; Scuppernongs are extra fine, and a great many have been shipped. ROBT. M. HITT.

Montmorenci, S. C., Sept. 22, 1903.

Situated in Northfield, Summit Co. We are not far from the lake breezes, and we have some very quick changes; Tuesday evening, Sept. 15th, it was 78, and on the 19th it was 48. Crops are looking very good; the threshing is almost all done now; oats were no crop; same with wheat; weeds are the most plentiful of anything. Butter, 23c. per lb.; eggs, 25c. per doz.; sweet corn, 1c. an ear; tomatoes, 15c. per half-bushel basket; pumpkins, 10c. each and in good demand; cauliflower, 15c. each; cabbage, 5c. per head. There are not many chickens in this neighborhood this year; it was not a good spring to raise chickens; I have a few Toulouse geese that will make someone a nice Christmas dinner if nothing happens to them.

MRS. MAGGIE RITCHIE.

R 2, Macedonia, O., Sept. 22, 1903.

Located one mile west of Hartstown, Southwest Crawford Co. Land mostly level or gentle slope. Weather unusually wet; farm work much delayed. Wheat and oats fair crops; oats badly damaged by wet; corn late; apples a light crop. Prices: Milk, 40c. per cwt.; butter, 18c. per lb.; eggs, 19c. per doz.; wheat, 72c.; potatoes, 45c. per bu., rotting badly. Farm labor very scarce, and wages high; $20 to $30 per month, with board. The P. F. largely read. Farms are being improved. CAMPBELL & WEST.

Hartstown, Pa., Sept. 23, 1903.

Located in Warren Co., Tenn., 5 miles northeast of McMinnville, the county seat. We have had three weeks of very dry weather. Early corn a fair crop; late corn will not make one-third of a crop. Prices: Wheat, 85c.; corn, old, 80c.; oats, 40c. per bu.; eggs, 16c. per doz.; butter, 15c.; chickens, 8 to 10c. per lb.; potatoes, 60c.; apples, 50c. per bu.; meat, 12 to 15c.; hogs, 4½ to 5c.; cattle, 2 to 3c. per lb., live weight; mules, $60 to $150 each; horses the same; milch cows, $20 to $40; calves, $6 to $10 each. Farm hands scarce. A. COLLIER.

Increase, Tenn., Sept. 22, 1903.

Located in San Saba Co., Tex., 100 miles above Austin, on the Colorado River. The land is fertile; one-fifth tillable, the balance pasture; grass is mesquite; timber post oak and live oak mostly. Not sufficient rain every year; big scheme on foot to irrigate 50,000 acres in San Saba Valley. Good schools; people church attendants and law-abiding; scarcely any negroes; population American. No railroad in the county. Fine wheat grown this year; from 10 to 30 bushels per acre, worth 70c. per bu.; corn, 40c.; potatoes, $1 per bu. No boll weevils; one bale cotton to three acres; worth from 10 to 11c.; turkeys, 6c.; butter, 12½ to 15c.; hogs, 5c. per lb. on foot; eggs, 8½c. per doz. Stockmen have good cattle—Herefords and Durhams. Good sheep country; fine Angora goat country. Land worth from $2.50 to $50 per acre. JOSHUA BROWN.

Cherokee, Tex., Sept. 16, 1903.

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THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Manage Your Own Farm and Make it Pay, Too.

Amos H. Hayes, Rayville, Md., has a farm of 150 acres, the old homestead. He lately bought another farm, near by, which has on it a barn 45x78 feet and a large, fine house. He has been trying to do most of the work on the two places himself, as help is hard to get, but finds it up-hill business. He is unable to take care of crops, etc., as well as he knows it should be done. On the two farms he has about 52 acres on which young fruit trees are growing, mostly late apples. There are 50 acres for crops, and 20 acres from which the timber was lately cut off, which can be put in grass for pasture. The balance of the land is growing chestnut and oak timber. Our friend has thought of getting a good man to live on one of the places and keep cows and sell milk, and of renting both places to him. Farmers about there get 12 or 13 cents a gallon for milk, after paying freight to Baltimore. Many are in the business. Mr. Hayes lives 2½ miles from the station. He says they could grow corn in the orchard, for summer feeding and for a silo, and also cow peas for hay. Another plan he has thought of is keeping pigs and sheep and pasturing the orchard, largely. The P. F. is asked to advise generally in the matter.—To my mind Friend Hayes is thinking of falling into a very common error. He cannot run the two farms successfully without more help, and help is hard to get. Supposing he rents the farms on shares to as good a man as he can get, has he any reason for thinking that man can do any better than he can? Will he take as much interest in the care of the farm, probably, or will it be more in the dollars he can get out of it temporarily? Can the renter get help any better than Friend Hayes can? One often hears farmers saying they will have to rent their places on account of the scarcity of labor, or of the high price it commands, forgetting that no one else can do any better than they do, unless they have children in the family to help out. If they do have, the children, or their parents, should have fair pay for the labor they perform, surely. It is a poor business that cannot pay for the help needed to run it successfully. No, my good friend, right in the prime of life as you are, I would not give up the reins to someone else, when there is hardly a chance of their doing as well for you, in the long run, as you can do for yourself. And then the chances are that you will see plenty to worry about in the future, with the farm rented, and land, fences, etc., gradually running down. I would surely favor the hiring of a good man, with a family, by the year, and letting him live in one of the houses. Then use your brains to direct his labor, and some other help, not taking the brunt of the heavy work yourself, as a rule. I can sympathize with you in your present condition. Yes, I have been through it all, with only my hands to do the work out of doors, as a rule. It is a slow and discouraging way of farming, where one has as much land as you have. You need plenty of reliable help. Then you can find time to study out the best methods for you, and thus gradually improve your land and increase your income. Don't back out, or retire from the direction of your own affairs. To have good health you need some steady, healthful employment. You will surely be more contented and happy if you keep at the helm and force a reasonable amount of success to come your way. I do not feel like advising particularly about which line of work named you should follow. Both have advantages; you can become successful in either one. The dairying will be more confining—work for every day in the year; but it also brings in money every day. The price you name for milk is good, and surely one can pay his men good wages and succeed, at that price. With a cement floor in the stable of that big barn, and good selected stock, year by year growing better from better breeding and care, you surely can do well. It would be better if you were nearer the depot, but the distance you name is no serious drawback. I am afraid, however, that you will not find corn a good crop to grow in a young orchard. It will exhaust the fertility too much, unless you double feed the land, and then, if you do not have a very abundant rainfall, there will not be water enough for the trees and corn, too. To be more exact, there will not be water enough to dissolve the food for both crops. You see crops drink rather than eat. They take their food in solution. Forage crops are hard on the growth of trees and fruit, particularly in a dry season, as they take so much water out of the soil. Almost constant cultivation is good for the young orchard, and small-growing crops may be put between the rows for a time, but I would not have them come very close to the trees. It would seem to me that grass pastured off close by sheep and pigs would be better for an old orchard than for a young one. You are most too far South for me to advise fully about the arrangement of a rotation of crops. This I will say, however, that I should favor a 4-year one, growing corn for the silo, if you keep cows, and wheat to seed with and furnish straw for bedding, and working in cow peas, and crimson clover, or rye, on any land that would otherwise be bare during the winter season. The 20 acres of pasture would not go far towards furnishing summer feed for the cows that 50 acres of crops would winter; but you could probably keep the cows in a cool stable during the day to advantage, in hot weather, feeding them there. Corn silage and cow pea hay will make fine rough feed for summer, as well as winter. If you could buy 30 or 40 acres more of good pasture land near by, and at a low price, it might be a good move, but I do not know to what extent you can safely depend on pasture grass with you. Where grass will grow freely about all summer it is often a cheap way of feeding cows. Then spray them to keep off the flies, and furnish shade for the middle of the day. Where pastures cannot be depended on during the summer months to furnish plenty of feed, a dairyman, to be successful, must have other feed ready, good and abundant. Milk is made from what the cows eat, and a full supply of food should never be lacking for a single day. I am deeply in earnest along the line of the advice given in this article. It is best for the land owners themselves, it is best for the fertility of American farms, and the future of agriculture, that our farmers should manage their own farms, and live on them and improve them, making each one an ideal country home, as fast as they may be able, with no thought of any other in this world.

Drive More Horses and Make More.—A friend living in Trumbull Co., O., asks whether or not a riding gang plow, turning two furrows at once, would be a success on their heavy clay land. If it would be, could four 1,100-pound horses draw it? And can as good work be done with gang plows as with single ones? If a gang plow can be used successfully he thinks it would be quite a saving of high-priced labor.—Well, this friend is thinking in the right direction. Labor is high at present. We cannot change this fact; however, we can study to make the labor of men more effective. But one cannot answer the above question positively. Much depends on the size of the fields and their condition. A Western farmer often drives from four to six horses, using a gang plow, and sometimes a harrow hitched behind a roller. Their tools are generally wide, arranged for using a good deal of horse power. But their fields are large and free from obstructions. There is much flat land in Trumbull Co. and doubtless many farms with fields large enough so a gang plow would be all right. It would be an unwise investment on our little farm, with its necessarily small fields. As to the work done, there is a difference of opinion. I am inclined to think that a single walking plow, in good hands, does as near perfect work as can be done. However, it is not fast enough for some circumstances, and I have seen thousands of acres well plowed with Western gang plows. And the amount of land that friends there tell of turning in a day seems almost incredible. In the far East I have sometimes seen two men plowing with one team, one driving, the other holding the plow and turning one furrow at a time. They would do well if they plowed one-third as much land in a day as one live Western man would, driving three or four horses. If the land is in good condition, well supplied with humus, so it is not over hard, and is free from obstructions, I do not know why a gang plow will not work as well in Ohio as in the Northwest. If two horses can draw a walking plow turning one furrow, it should not be much harder for four horses of the same size to draw two plows, even if the driver rides. But if friends in the East stick to the walking plow, turning one furrow, from choice or necessity, there is no reason why they cannot often drive three horses abreast when harrowing, and thus gain a little, using wider harrows. Or perhaps they can use the same harrow and go along faster. And three horses abreast make a strong team to draw crops to market. Many a day the writer has helped himself in this way. The third horse practically draws all load, you see, as an ordinary 2-horse wagon is usually strong enough to carry a 3-horse load. When 3,000 pounds was load enough for two horses, I drew 5,000 with three abreast, week after week. In round numbers, say, the wagon weighed 1,000 pounds. With 3,000 of load each one of two horses had 2,000 to draw. With 5,000 of load, each one of three had the same to draw. You see I could draw almost twice as much in a day with three horses as I could with two. In many cases a farmer can help himself quite a little, now labor is so high, by arranging to drive more horses. If a man can earn $5 a day for you with three horses, and only $3 with two horses, can't you see that you can make the use of a third horse enable you to pay more for labor and still make more? This matter is worth working into, carefully. We must learn to make our labor more effective on the farm, same as men do in other lines of business. Growling at present conditions will not help us out; study will.

Health Hints. — Storm Sash Sometimes All Right.—Lately we have been fitting some storm sash to the windows of occupied west and north rooms, as well as storm doors to west and north doors. One such door was mentioned last week, as having a glass in it, opposite the glass in main door. And last winter I carried a screw driver in my grip and Friend Henry and myself got quite a little exercise taking off storm sash. Doubtless the landlords said some naughty words after we left, occasionally, as the sash were not always put back. I have been converted suddenly, do you think, to the using of storm sash? Not at all; conditions are very different. The hotels are usually steam-heated, with no ventilation whatever, and often storm sash are found on every window. The same air must be breathed over and over. Such a condition of things is awful. And so, in one way or another, peacefully if possible, I got the storm sash off wherever I went, so a window could be opened and fresh air obtained. It could not be had in any other way, and I am not willing to lower my vitality and shorten my life by breathing the same air over and over. But, now, with ventilation arranged for otherwise, with a certainty that the air in the house will be pure, night and day, anyway, then storm sash will save fuel and be a comfort to a certain extent. We are absolutely certain of pure air in our home, night and day, during the cold weather. This will come from the use of a warm-air furnace that takes air from out of doors, and a grate which also brings in fresh air and warms it on its way in, and then removes the impure air, a large, steady stream of it. We also have a ventilating flue that takes the impure air out from the floor upstairs. But I will not go into the matter in detail now, only enough to state that we have perfect ventilation, so windows need not be opened to get pure air. Where warm air is circulating in the room, heated by furnace, stove or otherwise, there is quite a loss of heat where single glass windows are used, particularly on the cold side of the house, in this northern country. The cold wind strikes one side, keeping it cold, and the warm air passes over the other side and is quickly cooled off. This does not purify the air at all, does no good and is wasteful of fuel. So I have fitted a storm sash on the outside of the west window in my room, to go in the place of blinds. It is held by four little iron buttons on the sides. In this way it can be put on or taken off, from the porch roof, in a single minute. They are more commonly put on with screws, but it is not so handy a way. The west windows of sitting rooms and kitchen have also been fitted with extra outside sash, and the north bath room window. Wife's room has a west window, but she wanted it so she could open it, and so she has it. It will make no great difference, if she keeps the blinds closed and shade down. It will make quite a little difference in the amount of fuel needed to keep our living rooms warm, however, where we want the full light. I would hardly go to the expense of storm doors and sash here on the south and east sides of the house, particularly as our home is well protected from wind by tall evergreens. Further north, where fuel is expensive, they ight pay well and be all right with roper arrangements for ventilation. ou will notice that our sash can be aken off in a minute to let the wind blow through when there is a thorough job of sweeping to do. We would not like storm sash that could not be taken off on such an occasion.

T. B. Terry.

City vs. Farm.

A. E. FENTEISE.

The article by C. J. Eggerichs, "City vs. Farm," published in your issue of Aug. 8th, has just come to notice, and deserves the careful consideration of the much-abused employer who attributes his want of success to the shortcomings of the hired man—the Southerner is poor "because the nigger will not work." Every good workman is willing to admit that there are incapable hands, but does the average employer offer inducements for the intelligent, capable worker? Your contributor tells how the lack of humane treatment prevents his following the occupation most congenial to him. As a man usually succeeds best in the work he is most interested in, one may infer that thus one good farm hand is lost, and why should there not be many similar cases? The case of the married hired man is equally bad. Once he is on the place with his few goods and chattels the thoughtful employer recognizes the expense and inconvenience a change would incur, and trading on this he finds him employment from 4.30 or 5 A. M. until 7.30 or 8 P. M., less half an hour for breakfast and one hour for dinner. In the writer's five years experience on a farm supper has been eaten perhaps three times by daylight, and this on Sundays when milking has been begun unusually early. In addition to the physical strain of working 365 days in the year is the insult to his intelligence by his being required to work this number of hours to earn a living. Not infrequently he is given to understand that he does not do enough work to make the farm profitable—the employer's want of method and practical knowledge, of course, not being taken into account at all. A good deal of the charm of owning a country place seems to consist of owning white slaves to work it. In sanguine moods one is led to hope that in the enlightened future self-interest may prompt the average employer so to treat the hired man that his life may be worth living. It would be Utopian to hope that a sense of humanity will ever bring it about.

Montgomery Co., Pa.

[There are evidently two sides to the hired man question, as with every other human problem. Some day the farmer may find out that the ten-hour system can be worked profitably on the farm, as a general rule. Putting yourself in his place is a good way to find out how to treat the hired man on the farm. The unreasonably long hours on the farm are certainly one of the chief difficulties in getting the best farm labor in competition with other occupations where men get better pay and shorter hours. We tried the ten-hour system years ago and it worked well.—ED.]

Poor Farming in Pennsylvania.

DANIEL OTT.

Traveling overland last week through Bradford and Somerset counties, it hurt me to see so many careless farmers letting all kinds of weeds grow; some ripe and others almost so, and no signs of an attempt to destroy the seed. All weeds should be mowed before the seeds are ripe, when they will not need to be burned, but will answer as a mulch and a material for humus making in the soil, which most of our soils need. One need not stop to inquire where the up-to-date farm papers like the P. F. are taken, for the half crops, weedy fields, old, tumble-down fences, fruit trees either dead or full of water sprouts and all out of shape, poor cattle, sheep and horses, all tell the story that the owner is not a reader. It makes one heart-sick to see the many half-cultivated farms, worn by lack of good plowing and culture; and the worst of it is that there is no way to reach these farmers. They will not attend the Institutes or even be talked into taking a good farm paper. It seems to me that it would be well for the Institutes to carry some inducement like a sort of fair and show to draw them out. I live near a flourishing mining town, where there is a market for all that the country produces. Our farmers mainly grow grain, and the dairy is quite extensively carried on, and there are some good stock farms. But not much attention is given to fruit, while this is one of the best of money crops for this section. Little attention is given to the trees, and there is seldom a farmer who even takes the trouble to prune a tree. So it is no wonder we do not have the finest fruit, since to make fruit a success it must have attention not only in the care of the tree, but in the gathering, sorting and packing of the apples. Better care with poultry would also pay well, as well as the proper handling of dairy products.

Cambria Co., Pa.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Dissolving Phosphate Rock and Feldspar. — W. W. Avery, Plumtree, N. C.—"What apparatus or plant is necessary for the treatment of phosphate rock with sulphuric acid in a small way for farm use? We are near the East Tennessee phosphate deposit, and can get the rock in carloads cheaply. As a by-product of our mica mines we get large quantities of feldspar, carrying a small percentage of potash. Can it be made available for plant food by grinding the rock to a fine powder and putting the powder on the land, or is there any other way in which it can be made cheaply available?"—It is entirely impracticable to make the acid phosphate on a small scale economically. The rock must be pulverized by powerful machinery, and the purchase of the sulphuric acid in small quantities would make the product cost far more than the market price for the manufactured article. The fertilizer factories do this work on a large scale and make their own acid at a tithe of the cost of the commercial article. Where only a few tons are needed it is more economical to buy from the manufacturers than to try to make it. There is no way in which the potash in the feldspar can be made available to plants economically. If it is powdered and spread on the land it will gradually become available through the decomposing influence of the carbonic acid in rain waters. Nature's laboratory is the only one that works cheaply enough to accomplish the end. It may pay to spread the refuse on the land and then through good farming and an occasional application of lime to get the use of the potash. But in lands that are the result of the decomposition of feldspathic rocks it is seldom that any artificial application of potash is needed.

Virginia Lands.—E. W. J., Crossville, Ill.—"I would like to ask some questions in regard to the lands in Eastern Virginia, which are advertised at very low prices as compared with land here. Is the land level or hilly, and if partly both, is the level land as good and cheap as the hilly? Is pine timber growth indicative of poor land? Is the land free of stones? What indications should a stranger in search of land there note? I suppose the help is colored. Is a Northern man treated cordially, or is he ostracised? Would it be wise for a man to sell land here at $75 an acre and buy some of the cheap land there? Do people from the North have trouble in getting acclimated, and is the level land healthy, for I would not think of going to hilly land to farm? Would a man have trouble in getting his help to use up-to-date methods in farming under his direction? The orchard region is hilly, is it not? Would not stock raising pay better than further North where the winters are more severe and longer?"—The Editor gets a great many letters similar to this one, and usually writes a personal reply. But as these queries are so frequent, we think that it may be a help to others to reply in the paper. In the first place we would say that it is impossible for us to advise intelligently in regard to a change of location unless we know the man and his circumstances. One man may make a success where another would fail. Eastern Virginia is rather an indefinite statement. If you had mentioned any particular locality or county we could give a better opinion. There are lands in tidewater Virginia that are good and cheap, because the people have more land than they can improve. There are also areas of very thin and poor land, much of which has been run down in the careless cultivation of the past, but can be easily restored to productiveness by good farming. With means in hand for this improvement it may pay a good farmer to buy these run-down lands, but without cash for this purpose the cheap lands would be of little help, for there is nothing that will so effectively keep a poor man poor as a piece of poor land. The level lands near the water are generally better than the hilly lands. They have been considered malarious, but we know now that malaria is not a thing of atmosphere, and that the air is just as poor in a malarious section as anywhere. Avoiding the use of water from shallow wells, and taking measures to put down the mosquitoes that convey the infection, one can live as healthfully in what is called a malarious section as anywhere. East Virginia is no more subject to malaria than the level prairies of Illinois were when we were out there. The orchard region of Virginia is up in the foothills of the Blue Ridge, where the land, though hilly, is a great deal better than the average in tidewater. There is no doubt that with the abundance of feed that can be grown in Eastern Virginia with the cow pea and other legumes stock raising could be carried on there with success, though comparatively little is done as yet in that line. Whether the pine is an indication of poor land depends on the character of the forest. A dense growth, purely of pine, is usually an indication of an old, abandoned field that has been scratched over and turned out as worn out, and nature is setting about curing the waste of man. Pines in a mixed forest of original growth, associated with oaks and poplars, would not indicate poor land, but rather the reverse. No Northern man is ostracised in the South merely because he is a Northern man, and his social standing will depend entirely on what sort of man he is. In Virginia you will have to work negro hands on the farm, and few Northern men coming South succeed at first in the management of negro labor, and they have to learn how after they get there. We never had any difficulty in getting negroes to work in the way we wanted them. Whether it will pay a man to sell land at $75 an acre in Illinois and buy run-down land in Virginia is a question we cannot answer. If you have such a farm in Illinois paid for, and are making a living and a home, it would hardly be wise to break up and start again under conditions with which you are totally unfamiliar. There is a great opening all over the South for men with means in hand to develop the land, and such men can make money there, but a man with limited capital on a piece of poor land will have as good a chance to stay poor in the South as in the North.

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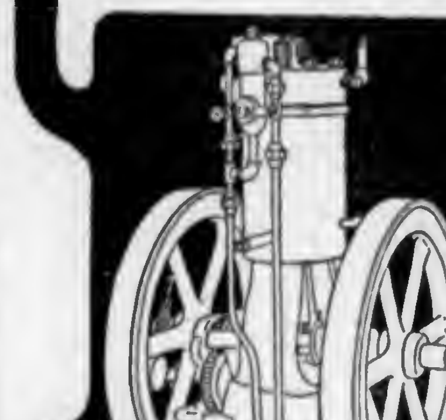

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Extraordinary Ashes.—Calvin Smith, Celona, Pa.—"I can collect some ashes at a manufacturing plant with the following analysis: Nitrogen, 1.15 per cent.; phosphoric acid, 1.09 per cent.; potash, 20.32 per cent. Please give me your opinion of this and its value, and the best way to apply it to the land and for what crops."—Are you sure of that analysis? How does nitrogen get into ashes, and from what source are they to have so large a percentage of potash? Nothing short of cottonseed hulls will furnish ashes with such a content of potash, and if they are real ashes, made by burning anything, we cannot understand why there is any nitrogen left in them. Such an analysis, if the matters are in an available form, will make an excellent fertilizer for land needing potash. Such an article, if in an available form, should be worth nearly $25 a ton. But we cannot help thinking there is some mistake in the matter and that the article is not pure ashes. It will probably be useful as a fertilizer for potatoes or corn on light soil.

Pear for Name.—W. J. Tracy, Harrisville, R. I.—"I send a pear for name. The tree was purchased for Souvenir du Congress, but I am satisfied that it is not true to name."—The pear is evidently a half-grown specimen of the Clairgeau, which ripens in November and will keep until Christmas. Souvenir du Congress is entirely different in shape, being a very large and long pear. Instead of being about half grown at this time, it would be perfectly ripe and soft.

Crimson Clover and Alfalfa.—C. P. Blankenship, Fort Mill.—"When is the time to sow crimson clover, and how to prepare the land? Also proper time to sow alfalfa, and fertilizer for it?"—We suppose our correspondent is at Fort Mill, S. C., though he does not give any State. A man's location is an important matter in advising him in regard to the treatment of any crop. In your part of South Carolina crimson clover may be sown any time in September or early October, and as September is apt to be very dry and hot we have often had better success in October. In fact, at the present writing we are waiting for rain before sowing the crop. Ours is to be put on a pea stubble. This we will merely stir with a cutaway so as to leave the stubble on top, and then sow the seed and roll. A good application of acid phosphate at the rate of 300 pounds or more per acre before harrowing, will be of great help to the crop. Alfalfa needs a thorough preparation of the soil by good plowing and deep subsoiling if the soil is clayey. The land should be put in the finest order and well fertilized. Harrow in 400 pounds of a mixture of five parts of acid phosphate to one of muriate of potash. The sowing is best done in the fall in early September, and as it is now rather late, we would defer until late February. Use 25 to 30 pounds of seed per acre, and if a good stand is had, run the mower over it two or three times the first season to strengthen the clumps and the second season give a dressing of lime at rate of about 20 bu. per acre in the early spring.

Fertilizing Strawberries. — William Masterson, Knoxville, Tenn.—"I have three acres of strawberries in narrow, matted rows on fairly good soil. I wish to improve the size and color of the fruit by commercial fertilizer. What and how much shall I use. We mulch with straw in spring to keep fruit clean."—We would apply the following mixture at rate of 500 pounds per acre at once and 500 pounds more in the spring as growth begins: Acid phosphate, 900 pounds; cottonseed meal, 700 pounds; nitrate of soda, 100 pounds; high grade sulphate of potash, 300 pounds to make a ton. Apply it all between the rows and work it in now and in the spring before mulching. It would have been better had the fertilizer been applied a month earlier, but it will still do well.

Killing Sassafras Sprouts. — W. A. Brevard, Franklin, Ky.—"I have been reading the P. F. for two years and your book on 'Crop Growing and Crop Feeding' with great interest. I have been on my farm but this year, and am convinced that there is something radically wrong in farm methods somewhere. When I go to an old farmer for advice I find that your teachings and his advice do not agree. I have pinned my faith to you and your paper, and come for advice, hoping to show some of my neighbors that it pays to take a good farm paper, and that book 'larnin' ' is a good thing to have, even in farming. My land is infested with sassafras and I want some advice relative to sowing wheat. Corn was given good level culture, and, excepting the bushes, is clean. My neighbors say plow. Your paper advises never to plow corn land for wheat. What shall I do and yet have good wheat or oats on the land? I have about six acres in peas, out of which I chopped the bushes before peas spread much. Would you not advise oats this fall and peas again in the spring? What cover can one use on the garden in winter? People here pay no attention to a winter cover, and few grow peas."—The more you plow and dig sassafras bushes, the more you will have of them. Cut them off at the surface of the ground, and then use smothering crops of grain, peas and clover, and depend mainly on the mower to keep down the sprouts. There is nothing equal to the mower and smothering crops for destroying sprouts in the land. If the land was well plowed in the spring for corn, and has been worked clean and level, it is far better to merely prepare the surface well at this season. Late breaking of the land prevents getting the soil into the well settled and compacted condition needed by wheat. But use the disk or cutaway harrow thoroughly, going over and over again, after cutting the bushes off at the surface and getting them out of the way, and understand that every time you go over with the harrow you are adding to the crop. By plowing now you will cut the roots of the sassafras and will make ten sprouts for every one now there. Therefore avoid cutting the roots more than can be helped. They will sprout, of course, but if you sow clover with the wheat, or on it in spring, and cut the wheat at the proper time, you will cut off the young sprouts. Then, as soon as the rag weeds and sprouts have started again, run the mower over the stubble to destroy them, and you will find fewer sprouts in the fall. If they come up quickly later in the fall, run the mower over again, and the next spring, when you mow the clover, the sprouts will be soft and easily mown off. Then mow the second crop of clover and you will begin to see the sprouts grow fewer. The same process can be repeated if you run the clover a second year. On the land now in peas you can sow oats in the spring and cut them for hay, as it may be too late to sow this fall after you get the land ready. Then when the oats hay is mown you can sow peas again and chop out the sprouts and mow what come later in cutting the peas. Then prepare the land with the cutaway and sow wheat and clover, and repeat as before. The mower is the best tool for killing sprouts. We are sowing crimson clover on all spots in our garden where there will be no winter crops, and will turn it under in the spring for potatoes and sweet corn. No land should lie bare in winter, especially in a Southern climate, but there should always be some green crop to catch and save the nitrates that become available in winter, and return them to the soil in the form of organic matter.

Improving Land in Florida.—G. E. Taylor, Muscogee, Fla.—"I have a piece of run-down land that I want to build up with oats and clover crops. It is light and thin, but not sandy, and has no clay foundation at all. Was broken for clover in June. Will make 15 to 20 bushels of oats or rice, or 10 bushels of corn per acre without manure, if there is plenty of rain from April to June. I have a fair crop of clover which I want to turn under after frost, or in early spring, and sow oats in drills. Which do you advise, fall or spring plowing, and should it be deep plowing. How should fertilizer be applied and what distance should the drills be apart? I want to use 300 pounds of fertilizer per acre. Fruit trees and peanuts show a great difference where lime is applied. Do you advise mixing lime with stall manure? Has sugar corn fodder much manurial value when well rotted in the stalls?"—It would seem that if the improvement of the land is what you are after, that oats are a poor crop for the purpose. You speak of planting oats in drills and ask what distance apart the drills should be. Only the distance a grain drill will put them. But we suppose you want the oats for feed. In that case you can get a great deal more feed, and help the land, too, by planting velvet beans in rows four feet apart and cultivating them. They will give you an immense amount of forage and nitrogen for the soil, especially if you give them a heavy dressing of soft phosphate floats. Lime should never be mixed with manure, as it will carbonate the ammonia and make it volatile so that you will lose it. Kainit is about the best thing to mix with the manure, as it will prevent firing and will add the potash your soil badly needs. Oats will exhaust the soil rather than improve it. Let the clover stand till spring before plowing under, and in March plant the velvet beans if frost is over.

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

ARE YOUR KIDNEYS WEAK?

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The kidneys filter and purify the blood—that is their work.

Therefore, when your kidneys are weak or out of order, you can understand how quickly your entire body is affected, and how every organ seems to fail to do its duty.

If you are sick or "feel badly," begin taking the great kidney remedy, Dr. Kilmer's Swamp-Root, because as soon as your kidneys are well they will help all the other organs to health. A trial will convince anyone.

Weak and unhealthy kidneys are responsible for many kinds of diseases, and if permitted to continue much suffering with *fatal results are sure to follow*. Kidney trouble irritates the nerves, makes you dizzy, restless, sleepless and irritable. Makes you pass water often during the day and obliges you to get up many times during the night. Unhealthy kidneys cause rheumatism, gravel, catarrh of the bladder, pain or dull ache in the back, joints and muscles; makes your head ache and back ache, causes indigestion, stomach and liver trouble, you get a sallow, yellow complexion, makes you feel as though you had heart trouble; you may have plenty of ambition, but no strength; get weak and waste away.

The cure for these troubles is Dr. Kilmer's Swamp-Root, the world-famous kidney remedy. In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

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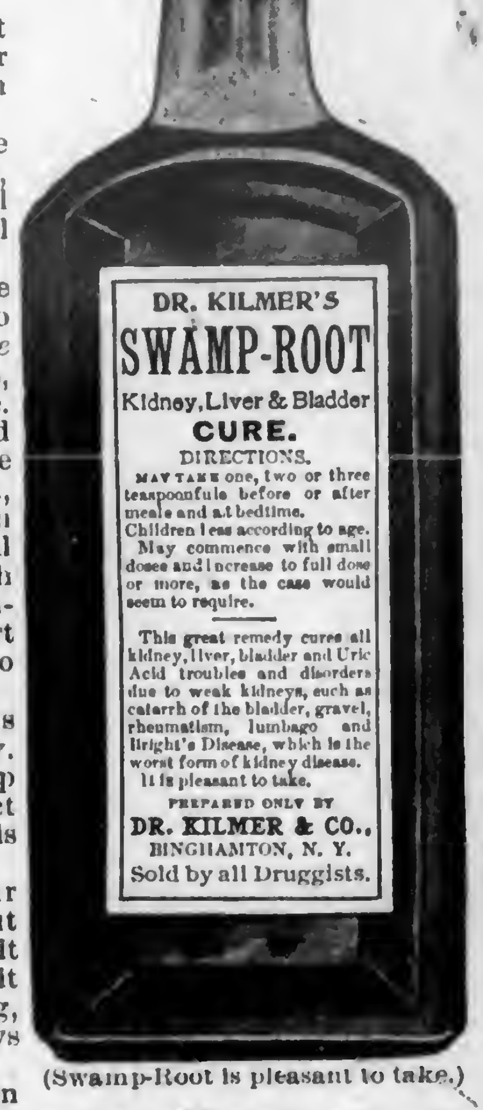
Swamp-Root is pleasant to take and is used in the leading hospitals, recommended by physicians in their private practice, and is taken by doctors themselves who have kidney ailments, because they recognize in it the greatest and most successful remedy for kidney, liver and bladder troubles.

If you are already convinced that Swamp-Root is what you need you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address Binghamton, N. Y., on every bottle.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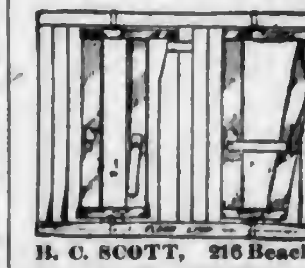

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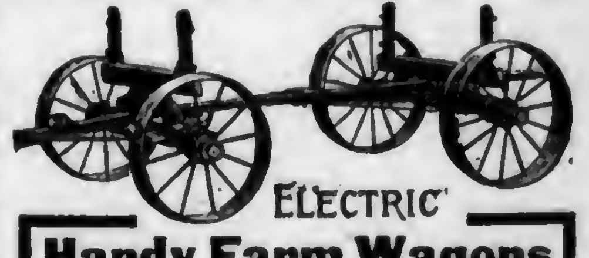

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The Management of Beef Cattle.

PROF. A. M. SOULE.

The season of the greatest interest and concern to the man who proposes to feed beef cattle is rapidly approaching. Now is the time when he must give consideration to the kind and class of animals he will feed the coming winter, for on the selection of the animals depends very much the profits derived from his labors and the price obtained for his foodstuffs. Anyone contemplating feeding beef cattle must think about it a long time in advance in order to arrange matters to the best advantage, locate supplemental foodstuffs which it will be necessary to purchase and secure them for spot cash when the market price is lowest. As a rule, it is a mistake to wait until a few days before it is desired to put cattle on feed to locate them. One then generally has to pay a higher price and has to be satisfied with a class of cattle that are not as good as could have been obtained had forethought and a definite plan formed a part of the contemplated work. Possibly more loss is sustained through a failure to study the markets and the best condition of the cattle trade six months hence—the selling time—than from any other cause. In a number of instances last winter men who had undertaken the feeding of cattle, failed, according to the observation of the writer, because of a failure to map out a definite plan before they commenced feeding. One man, for example, started to feed a number of cattle for the Christmas market. He had had very little experience, and not knowing how long it took to finish an animal found them unfit for the market when Christmas arrived. He had foolishly commenced feeding them a heavy grain ration from the start, thinking by so doing he would finish them rapidly, and thus he found his grain supply pretty well exhausted before his cattle were half finished. He had also fed them about twice as much grain as was necessary to secure a good gain, and hence with half-finished cattle on his hands used to a heavy grain ration, he could not let down on the amount of meal fed. There was no recourse but to increase the supply of meal and continue to feed for several months in order to get rid of the cattle at a fair price. The experiment, so far as he was concerned, was a financial failure, though men in the vicinity where this happened fed cattle at a profit. The other instances referred to, while different in details, were similar in results, and the cause was almost the same. The inference to be drawn is that one who proposes to feed cattle must know what he is trying to do and then must proceed in an intelligent way if he hopes to succeed.

Formulating the plan is therefore the first essential. True, a plan, no matter how well prepared cannot always be adhered to, but it is easier to meet contingencies with one in mind than when going at a haphazard gait. After the cattle are secured many persons make the mistake of putting them on feed at once. Animals brought off the grass will not readily take to a fodder and grain ration. They must be given several days in which to become accustomed to the changed food and surroundings. This is appropriately termed the preliminary feeding period and should cover from 7 to 14 days, the longer period being preferable. During this time very little grain need be fed; just enough to accustom them to its use and to get them to relish it. Give them a fair supply of rough fodder or silage, as the case may be, but do not feed lavishly. The attempt should be rather to teach them to acquire a liking for the new food. Animals will sometimes not take readily to new kinds of food for several days. Examples of this are sometimes seen in the case of silage and cottonseed meal. After they once acquire a taste, however, they eat these foods ravenously. The "putting on feed" process should therefore be slow and deliberate. A violent change of foodstuffs requires a new adjustment of the digestive system, and many people make the mistake of trying to rush cattle on a heavy grain ration in the beginning, with the result that the appetite soon becomes cloyed and the animals go "off feed," something little short of disaster to the feeder. With new foods and forced feeding from the beginning the digestion of the animals is likely to be upset; so the cloying of the appetite and "getting off feed" is often not a simple matter, but something whose effects may be felt for several months. It sometimes happens that the animals never again acquire the keen appetite with which they started out when first put on feed. Thus, the preliminary feeding is a very important period, determining very often the success which will finally be attained.

Where cattle are to be fed for 150 or 180 days to be finished on grass for early slaughter, at least 30 to 60 days should be consumed in bringing them to full feed. In fact, they do not reach what is the final concentrate limit until within the last 30 to 60 days. At the end of the preliminary feeding period of two weeks, the roughness ration may be brought to its full limit, though at this time not more than 4 to 6 pounds of meal is best to feed per head per day. The meal ration may then be increased one-half to one pound per week, depending on the size of the animals. If the animals are being fed for 150 days this will give three months, or twelve or thirteen weeks in which to reach the final limit of the concentrates fed. Animals weighing 800 pounds and receiving 4 pounds of meal when first placed on feed would then be receiving from 12 to 15 pounds of meal per head per day, which is all that they will consume profitably. In fact, in our experience where silage has been fed it has generally been most profitable to limit the meal ration with such animals to 10 pounds, if of cottonseed meal, and to 10 to 12 pounds if consisting of one-third to one-half cottonseed meal and the balance of corn and cob meal. By raising the meal ration gradually the digestion of the animal is never upset nor the appetite impaired, and thus uniform gains are obtained from the beginning to the end of the feeding experiment, something which is absolutely necessary if large gains are to be made, for when an animal gets "off feed" it often takes two weeks to bring him back and during that time he will certainly stand still if he does not lose.

During the progress of the feeding experiment the consumption of roughness will decrease and the concentrates increase, and it is well to bear this in mind and not allow a lot of food to accumulate in the mangers. There is nothing that will throw an animal off feed sooner, or destroy the appetite than to leave the mangers full of spoiled, picked-over food. The mere breathing of the animals on this food makes it distasteful to them, and it will also soon become musty, thereby endangering both the appetite and the health of the animals. The manger should be cleaned carefully each day and washed once in awhile with a strong solution of borax or salt. It may take a little time to do this, but it is labor well expended, for animals on heavy feed are very likely to become dainty, which is to say the least a misfortune.

Care should also be exercised to see that the foods are fed in the most palatable condition. Palatability increases the consumption of food and large and uniform gain can only follow where food is consumed freely and in the best condition for rapid digestion and assimilation. Musty, dirty food should not be offered to animals. Clean, bright hay and fodder can be had just as well as the other kind, if the farmer is a good business man, and if he is not he had better keep out of the cattle feeding business. Should soured or fire-fanged places occur in the silage, throw them to one side, as it is liable to throw the animals off feed and cause indigestion. The same is true of the meal. Cottonseed meal sometimes becomes stale. See that only bright, golden-colored meal is purchased, and then keep it in a well protected place so it will hold its flavor and quality throughout the feeding period. One who contemplates feeding cattle must provide some means for weighing them if the best results are to be obtained. Cattle must be weighed at least every 10 to 15 days in order that an estimate may be made of their gains and the food adjusted to their needs, and it is only in this way that one can keep up with the progress of the respective individuals, for the eye is very deceiving and the best gains are frequently made when one supposes the animals to be standing still. The scales are the best criterion by which to ascertain the individual progress of the animal and the food supplies needed for the best gains. If one finds animals are not making a satisfactory increase in live weight, the food can be readjusted; one concentrate increased or decreased, or a new roughness given. Very trifling changes sometimes give surprising results and it is hard to see how one can hope to feed cattle successfully where no scales are available for weighing them from the time they are first placed on feed until they are ready for shipment. Certainly feeding cannot be done in the absence of a pair of scales with the greatest economy of food.

Another important matter is to see that the animals are uniformly supplied with good pure water and plenty of salt. A lump of rock salt may be kept in the mangers or feeding troughs. A daily currying is a great advantage, as it keeps the skin open and healthy and aids circulation, a very important matter. It is also important to see that the animals are kept in comfortable surroundings; good clean stalls with plenty of bedding. An open lot is not satisfactory where the animals have to tramp through mud and are exposed to the rains of the winter season. Give them some kind of an open shed where they can be clean and well supplied with bedding and you will add much to their comfort and insure a larger gain and a greater profit.

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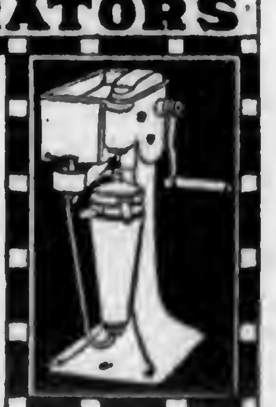

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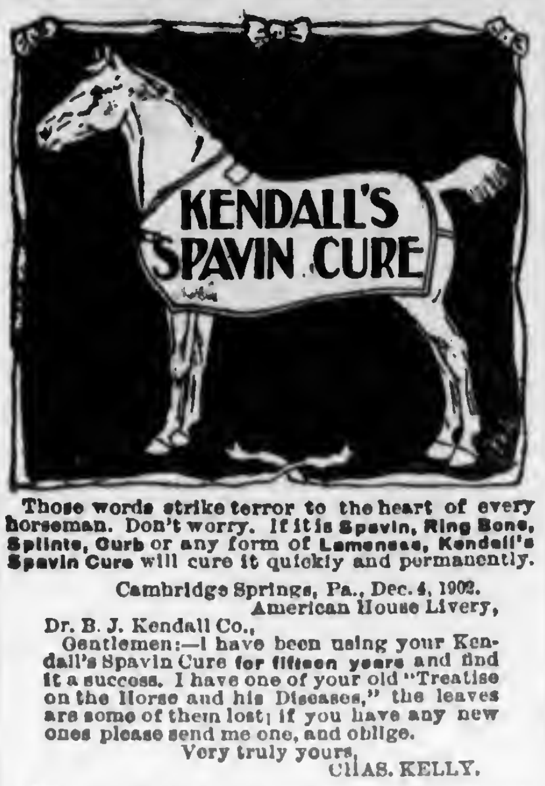

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Corn for Calves.

I. H. WATT.

Requests for my method of feeding corn to calves induces me to write more in detail. I feed the calf nothing until it is 24 hours old. I allow it to remain with the cow an hour or so to get the "first milk." Twenty-four hours later it is abundantly hungry to drink. I never feed them my fingers. They will not drink very much, of course, perhaps not more than a pint, but that is enough. Twelve hours later I feed one quart. Next feed one and a half quarts; next two quarts, and thereafter only two quarts. Two quarts seems a small quantity, but it is enough when corn is fed also. Large quantities of milk alone will stunt a calf. I feed new milk for three weeks, then change to sweet skim-milk for three weeks, then to thick milk; it is better than sour milk. When the calf becomes three or four days old (if its teeth are good and they are invariably) I begin to feed shelled corn. Calves soon learn to eat corn because they relish it. They always want more.

When feeding time comes, if the calf is not hungry something must be wrong. Place a few kernels of good corn in the back part of the calf's mouth by elevating its nose and opening its mouth. It will crack some of them and spit some out, but it gets a taste. Then take a dozen or more kernels in the hand, place the tips of the fingers in the calf's mouth and elevate its nose, allowing the corn to run into its mouth and the "teaching" is all done; no trouble after that. In a week it will eat from a box. Increase the amount to one pint by the time the calf is three weeks old. Feed the same amount regardless of the purpose for which the animal is being raised; the object is rapid growth. For milkers breed young. Raised by this method they will have the proper size. Breeding young induces development of the hips and udder, so much desired in that class of animals. Continue to feed corn to keep the heifer in good flesh, but not enough to fatten. For the beef animal feed corn sparingly until a proper size has been attained, then keep corn before them. They will fatten rapidly and make first-class beef. The object in feeding the corn shelled (to young calves) is that they chew it up, carrying to the stomach an abundance of saliva. Calves fed cracked or ground corn, or ground feed of any kind, suffer from indigestion.

York Co., Neb.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Worms.—What ails our horse? He is 18 years old, and we think he is afflicted with worms, as he has every symptom of worms. He is cross to other horses, has a ravenous appetite, is not in good flesh, is scary, seems nervous and will jump to one side on hearing a noise behind him. I suppose you mean to give linseed oil and turpentine as a drench, although you do not say so in your instructions. Also tell us what to do for 1-year-old greyhound. He has the following symptoms: He is very poor, although he is fed well on nitrogenous and carbonaceous foods; eats grass, then tries to vomit; is nervous; when asleep wakes suddenly and commences barking as if he heard a noise; is cross to other dog; has a ravenous appetite; has not grown off right; is not as large as he should be.

Jeffersonville, Ill. A. COUGHENOUR.

1. Fast horse for 12 hours; then give as a drench slowly from long-necked bottle two ounces of turpentine well shaken up in a pint of raw linseed oil and follow with a drachm of dried sulphate of iron night and morning in his feed. Keep the iron up for one week, then skip ten days and repeat both drench and iron. Have teeth put in good order and avoid feeding hay grown on low, wet land. 2. Dog is afflicted with tape-worm. Fast him for 24 hours, weigh him and give one and one-half grains freshly powdered areca nut to each pound live weight. Give it in cream and follow in two or three hours with a full dose of castor oil in milk. One to two ounces of the oil will be sufficient. Repeat dose in three months unless dog is well.

Indigestion.—Please give me some idea what is the matter with my mare, 16 or 17 years old. I bought her last spring and she was covered with a scurf and I washed her with salt water until I removed that; she has been shedding all the time. She was very poor when I got her; she has been doing well as far as gaining flesh is concerned. Her flesh is very tender and somewhat scabby, and at times there are lumps on her. I keep her and the stable perfectly clean all the time. I feed her as good clover hay as ever was made, and when she is worked I give her a gallon of oats at a feed. She has plenty of exercise, and when she is not worked she gets no grain. She has a little touch of the heaves. I bred her last spring. I always water before I feed, and dampen hay.

Tyner, Ind. J. M. HUMPHREYS.

Trouble is due to indigestion. Stop feeding clover hay and substitute good upland prairie hay. Wet all food with lime water. Feed a little grain right along and a bran mash twice a week. When she works increase the oats. Always give the drinking water before and not soon after feeding. Give her half an ounce of Fowler's solution of arsenic twice daily until skin is in good shape, then discontinue this medicine gradually, but do not stop it suddenly. Wash skin with a weak solution of the tar product disinfectant advertised in the P. F. If the coat is long, have her clipped at once. It is a mistake to breed a mare afflicted with heaves.

Lame Cow.—I have a cow about 6 years old; started lame on right hind leg last May while out on grass. Had a calf the fore part of June all right, but did not get over her lameness, and about ten days ago commenced being lame in left hind leg. Trouble seems to be in hips. She is falling a little in flesh, but otherwise seems all right except hard for her to get up after lying down. It seems like rheumatism, but I never heard or saw a case like it before.

Ice Lake, Can. ROBERT BRETT.

Cows suffer from rheumatism in this way but we also frequently find cases of tuberculosis of the bones of the lumbar vertabræ. For this reason it might be well to have her tested with tuberculin to make sure. If she proves to be free from that disease then treat her as follows: Three times daily give her fluid extract of nux vomica, commencing with ten drops at a dose and increasing a drop or two daily until the muscles are seen to twitch involuntarily, at which stage go back to the first dose and repeat. Also give her a tablespoonful of Fowler's solution of arsenic night and morning and rub the loins once daily with a liniment composed of equal parts of turpentine, aqua ammonia and raw linseed oil. When the skin becomes sore stop using and apply lard. Feed well on ground oats, bran and flaxseed meal.

Diseased Tooth.—I have a fine mare 12 or 13 years old. About the 1st of July she began to act as though her mouth or teeth were sore. She could not chew her feed good, especially hay. Her jaw at circle below right ear was considerably swollen. Took her to a veterinary surgeon; he examined her teeth and said the back tooth on that side ought to come out. He lanced her jaw in two or three places. Then he said the bone had been broken; the tooth was almost black and badly ulcerated at root. J. S. STANSELL.

Mt. Vernon, Mo.

We presume that an upper molar tooth was removed by extraction. It would have been better to remove it by trephining through bone of face, so that cavity might be flushed out with antiseptic solutions. This should be done now by a veterinarian. Also give the mare internally a drachm of dried sulphate of iron night and morning in feed as a tonic. This will help to dry up the discharge. It cannot be given safely if she is in foal.

Rheumatism.—I have some 10-weeks-old pigs, in good condition and growing nicely, but noticed a few days ago that they showed signs of soreness, or weakness, in back just behind the shoulders. When walking will flinch and give down in front legs, and are very tender to touch. Also noticed a sow with same symptoms today that I just bought three days ago. I feed a mixture of ground corn, rye, bran and oats; also cut cane and cow peas; they are kept in small lots.

Milan, Ind. B. PARSON.

The trouble is doubtless rheumatism induced by sleeping in damp place or pasturing low, wet ground. It has been rather common this summer, owing to unusual wet weather, and in some cases a similar trouble has been produced by scalding when going in rank growths of clover or rape. The flinching in the latter case is due to tenderness of the skin. Change the pigs onto dry ground and give them a dry bed where the sun can get at it. For a time feed lightly on slop of middlings and bran with milk and reduce feed of cane and peas. Twice daily give ten grains each of salol and salicylate of soda in any way found most suitable. If joints or other parts are found to be swollen or sore to the touch rub them twice daily with a liniment composed of two ounces of tincture of opium, one ounce of tincture of iodine, and soap liniment to make half a pint; shake.

Asatoria.—For a week my horse has been unable to stand long; his legs appear to be all right; no, or very little, pain in them. He eats well; he appears to have inward pain at times. The veterinarian here calls it asatoria, or partial paralysis. Will he recover? What shall I give him?

Belvidere, N. J. OLIVER J. SMITH.

We are unable to advise in this matter, as you furnish no particulars from which a definite idea could be formed regarding the nature of the trouble present. As you have a veterinarian in attendance he will doubtless give the case intelligent treatment.

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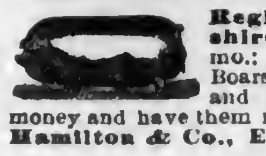

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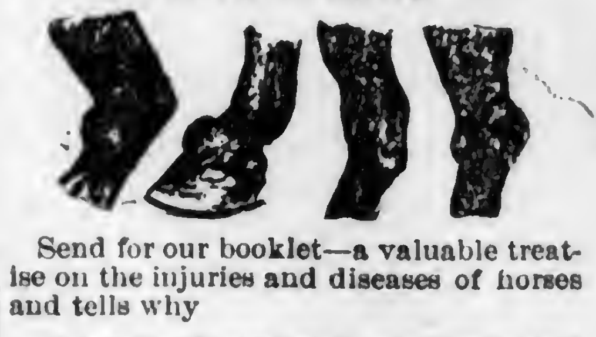

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Moles and Mole Traps.

Additional to what I have already said about the mole, and trapping moles, let me quote what a writer tells about it in the Rural. He says:

"One of the compensations of really dry weather is the relative freedom of annoyance from moles. As the soil surface dries and hardens earthworms descend to the lower levels of cultivation and the moles, in pursuit of their natural and almost exclusive prey, burrow so deep that vegetation above is little disturbed. Soaking summer rains, however, bring both the worms and moles to the surface with a rush, and the gardener, after weeks of immunity from destructive upheavels, finds his grass plats and choice plantings plowed up with astonishing rapidity. The only practical remedy is in the form of traps—plenty of them—and due diligence in using them. This advice, so frequently offered, seems irritating to many, who nevertheless loudly proclaim their annoyance at the mole's depredations. Some intelligence must be used in locating the more permanent runs and in setting the trap so that the trigger pan does not press so closely on the packed soil that the trap springs before the mole gets fairly under the prongs. The Hale, Olmsted and Reddick traps are equally good if used with discretion. This has been said many times, but will bear repetition. We cannot exterminate moles within the Rural Grounds, as they continually come in from adjoining fields, but a prompt use of traps on all new runs has always forestalled serious damage. During the spring drought there was no surface evidence of moles, but the rainy weather of June and again the present month brought in an unusual number of half-grown individuals that began to plow up our loosely-tilled soil with great energy. They were quickly intercepted by the traps and we are again measurably free from their attentions. Twenty-six moles were caught within three weeks, making a substantial reduction in those neighborhood nuisances."

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Talks on Timely Topics.

The Hand Truck. — Another thing that we find especially useful, almost indispensable, is our hand truck. During the earlier part of the season we keep the barrel on it for carting water, Bordeaux mixture, etc., to the places where wanted. But when the harvest season approaches, when we have to gather cabbages, cucumbers, green stuff of all sorts, or when we want to gather up lawn clippings, weeds, grass for the cows or horses, or dry leaves in the fall, the barrel is removed and the "leaf rack" (a light frame made by the "Iron Age" people) placed and kept on the truck. It is a most handy thing to have on the premises of any rural or suburban home. Again I quote from Mr. Cheever: "Another thing of my own make, chiefly, is a hand-cart that holds nearly twice as much as an ordinary wheelbarrow and is handled much easier. The wheels and axle were formerly part of a light buggy. With a little wheelwright and blacksmith work I have a push cart that has done excellent service nearly twenty years and is good for many more. All my tools are kept housed when not in use and are kept clean and bright."

This shows that one can have such conveniences even without going to extra expense, for, of course, one of the regular barrel trucks and leaf racks cannot be bought for less than $10 or $12. Even at that figure, however, it is more profitable to have it than to do without it where it is of so much use as on our place.

Thinning Tomatoes.—Trials in thinning the fruit on tomato vines have recently been made by the Arkansas Experiment Station. The results showed that thinning slightly reduced the total yield (about 10 per cent.), but made the individual fruits larger. In our own ordinary varieties (Stone, Honor Bright, Success and several others) we can see very little need of thinning, as they all give nice large specimens, and a good proportion of foliage to the fruit, anyway. There is one variety, however, for which thinning seems almost indispensable. That is the Earliana (Sparks's Earliana). We had planted our Earliana and another kind which appears to be very similar to it (Chalk's Early Jewel, I believe) on excessively rich soil, for the very purpose of stimulating the growth of leaf and stalk rather than of fruit, and the plants did make an enormous mass of vines; yet they set fruit abundantly, in fact, excessively, just the same, and the perfecting of all this fruit with which the ground is covered, seems to make such big demands on the plants' vitality, that the top growth is checked, and its life endangered. Of all varieties known to me, Earliana and its kind are the only ones that really require thinning, or for which it is an advantage, unless fruits of especially large size are wanted, and I think we shall not neglect such thinning with the Earliana again.

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Current Comments.

Growing Rhubarb at the South.—A reader in North Carolina recently asked if there is not a way for him to grow rhubarb. He has tried a number of times, raising the plants from seed, and taking all possible pains with them, even going so far as to provide partial shade, as he is very fond of the acrid stalks, yet they have invariably died when summer came. We grow rhubarb here to perfection, both in early spring and sometimes towards fall. But usually the stalks show but little vitality and make but little growth during hot summer weather. I asked our accomplished chief editor, Prof. Massey, how rhubarb behaves with him, and he replied as follows: "In reply to your query I have to say that I have never succeeded in growing a stalk of rhubarb in North Carolina. It may possibly succeed on a piece of low bottom or intervale land, but I have never tried it on such land. In my garden here I have tried planting roots from the nursery, I have tried growing it from seed in the place where I wanted it to remain, but one summer always finished it, and I have quit trying to grow it. I would be glad to be able to grow it, for I am fond of it and we lack these acid things, since, of course, we cannot grow gooseberries and currants."

Growing Celery for Market.—C. M. Linn, Pine Bluff, Ark—"I intended to purchase celery plants and put out some ten or fifteen thousand about September 19th to October 1st. I have but little experience in the culture. Set out a few hundred last year, September 19th, and was fairly successful. Bleached with paper and boards. Am interested in the new method of close planting (5 to 10 inches) and bleaching that way. The point with me is, if grown that way without handling, will not the plants be spread out and not in good form for market? Should it not be handled, and if so would it bleach sufficiently? As I understand, this is for the self-bleaching sorts and would not do for Giant Pascal and others of like character. My water supply will be windmill, elevated tank of 300-barrel capacity."—The need of close-planted celery is not so much the handling as the proper blanching. The plants, without handling, grow in as good form as any market can desire. Yet they do not always blanch as nicely (even if the White Plume looks white) as is desirable, or as they will when light is excluded by boards or earth. Earth blanching gives probably the highest quality. I have had celery do exceedingly well under the "new method" of close planting, and had no trouble to sell all I had at paying figures. And yet at other times, and on rich soil, too, they failed to come up to expectations. I would not risk a large patch in that way, even if I thought the conditions were all favorable, and with plenty of water at hand for irrigating purposes. I usually plant in single or double row, and blanch by means of boards. The late non-self-bleaching varieties (Pascal, Evans' Triumph, New Winter Queen) do best when blanched by earth banking in the fall, or during storage in cellar or trench.

The Lutie Grape.—L. G. Perry, West Plains, Mo.—"In 'Notes from a Carolina Garden' in an August issue of P. F. you mention a red grape called the Lutie. Please tell me where I can get a vine or two."—I must leave it for the readers of the P. F. to look through the catalogues of seedsmen and nurserymen for things of this kind. The Lutie, as I remember it, is sweet, but oh, so foxy! This, however, is no disqualification in the estimation of many grape lovers. Get a lot of catalogues.

Notes from a Carolina Garden.

It is a little odd that many of the books on vegetable gardening tell us to sow the prickly seeded spinach in the fall and the round seeded in the spring. The fact is that no experienced gardener ever sows the prickly seeded sort in the fall, and market gardeners seldom sow it at any time. We are reminded to say this from the fact that we are just now preparing to sow our main crop of spinach. We are going to try on this the new importation of Peruvian guano, which Mortimer & Co., of New York, are now importing. It is not as high in ammonia as the old Chincha Island guano of our boyhood, but it is now sold at a reasonable price and is well worth trying, for analysis shows it to be of higher grade than many of the brands of mixed goods offered at a higher price. We will sow the spinach seed in rows twelve inches apart and rather thickly, so that we can cut it out during the winter, leaving the centre buds to shoot again. Chinese Rose Colored radishes will also go into the ground the last week in September, and a second sowing will be made in October, for if the fall weather is late and favorable the first sowing may get too large to carry us all winter. When the weather gets cold after Christmas we put some rough manure between the rows as a protection, and then if the tops get nipped by frost they will shoot again. We usually have these radishes to pull all winter until March, when the lettuce of the late crop takes their place. In the flower garden the gladiolus corms are ripe and are being lifted for the purpose of sorting out the young bulblets and getting the large ones ready for sale or planting again. Otherwise there is really no need for lifting them every fall, since in this climate they stand the winter with the cannas in the ground. The cannas have the dead tops cut and spread over the bed to keep the frost out, and they keep better there than lifted. We lift and divide them in the early spring and reset to prevent their getting too much crowded in the beds. Our commercial growers, who plant forty to fifty acres in cannas, take them up in the fall and pile in windrows across the field and cover with soil so that they can be taken up for shipping at any time in winter or spring. They keep much better in this way than stored in cellars. The general planting of the fall bulbs is close at hand. The various kinds of narcissus can now go into the ground, with the exception of the polyanthus section. These have a reputation for being tender, and probably they are in the North, but here we have found them perfectly hardy if not planted too soon. Planted at the time the other narcissus should be, they grow at once and thus have their foliage exposed to the coldest weather. But planted after the ground gets cold in December they do not start until it is safe to do so. The nerines, or Guernsey lilies, have been blooming for two weeks. And yet if we take up any of the fall bulb catalogues we find these and the Sternbergias listed, and people getting them long after they should be in bloom are disappointed at not getting the flowers. As these bulbs have to be planted or potted in July for the fall bloom they should be listed in the spring catalogues with the note that they are deliverable in July.

There is a general complaint among our lettuce growers that the dry weather has prevented their getting lettuce plants up by the first of September, and the sowings the middle of September are for the mid-winter crop, while a sowing the first of October is for plants to winter over for spring setting. So far we have few plants from two sowings and the prospect for plants looks gloomy. The winter lettuce crop is getting to be an important one in North Carolina, since the crop will usually run up over one hundred thousand dollars altogether, and a scarcity of plants at the right time is a serious hindrance. Our last planting of the Giant Improved sweet corn is just tasseling, and we hope to have some fine ears from it before frost comes. At the farm a good crop of corn is maturing on land from which a crop of wheat was cut in June, and two tons of cow pea hay are being harvested per acre from the same land that made nearly two tons of wheat and vetch hay in the spring. This is the advantage a long summer climate gives.

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Points and Pickings.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Pink Dogwood.

Everyone who has seen the wild woods in early spring knows of the common white dogwood and its lovely flowers, as it is native of all the woods in nearly all the States; and in a slightly different form is found in the Pacific States as well. In almost every woods are to be seen varieties departed from the usual pure white color and possessing more or less pink in their flowers. It was for the South to furnish a lovely sort in the shape of a variety of this dogwood of a deep pink color, the one now known in nursery lists as the pink dogwood, the variety having been found wild in Virginia. It is one of the grandest acquisitions in the way of a large shrub or small tree ever introduced. In the vicinity of Philadelphia, where it has been largely planted, it is one of the features of the place in early May, when in flower. As with all varieties, it cannot be depended on to come true from seed, so it has to be raised by budding or grafting it on the common stock, but nurserymen have found a way to do this successfully, so that it is not a costly shrub to obtain. Those having room for it would never regret planting it.

Horse Chestnut for Shade.

The European chestnut is frequently planted as a street tree, as is evidenced by the specimens seen in many cities. Rarely are the trees of any credit in such situations, but, instead, of a stunted and unsatisfactory growth. The tree is subject to a leaf blight, which destroys the foliage to such an extent that, at times, by mid-summer, not a leaf is on them. This leaf blight is far more prevalent on trees in cities than on those in the country, the heat and confinement of the city evidently aiding its development. But when planted in the country a far different result is obtained. On some of the farms near cities, where the roots of the trees are in cool ground and the tops are unconfined, the horse chestnut keeps healthy and forms a magnificent tree in time. On the Chew estate, the historic grounds where Washington fought the battle of Germantown, there are several exceedingly fine specimens, fifty to sixty feet high, and these trees maintain the deep green of their foliage from early spring until the last thing in the fall. Their well doing is undoubtedly due to their growing on the lawn, where their roots are in cool ground, and to the partial shade and coolness of the air, caused by other large trees near them. In the cool yards of many farm houses I have seen the horse chestnut flourishing grandly. Its large panicles of white flowers in May, with the beautiful green of its leaves, makes it a most pleasing object at that time. What is called the American horse chestnut, also our native buckeye, make good shade trees; and delight in localities such as indicated as the best for the European. The red-flowered horse chestnut, catalogued by nurserymen as Aesculus rubicunda, has lovely red flowers, besides handsome dark foliage. In Europe, it is much esteemed, and is much used for avenue planting; not so much for shade—for it does not grow as large as the other—but for its general beauty when seen along the length of an avenue. Horse chestnuts start into growth early in spring, hence should be planted the very first thing, or else in the fall.

Clematis Paniculata.

In years gone by our chief reliance for a sweet scented, feathery white clematis was on the flammula, the one known as the sweet scented, from the South of Europe. It is true there were besides, the wild one, Virginiana, and the English species, known as the traveler's joy, but neither of these was sweet scented, though strong growers. In the one of which we write, paniculata, a Japanese species, we have the best of its class ever introduced. It possesses all the good qualities of the others, with many additional ones as well. It is as hardy as it can be, has an abundance of bright green leaves, which are free from insect attacks, grows vigorously and flowers profusely. An additional point in its favor is its late flowering. It does not bloom until towards the first of September, continuing all of that month, its masses of white flowers being uncommonly beautiful. It is just the thing for arbors, posts or for fences, or any place where a summer vine is required. Although it is quite hardy, it does best when cut down every spring and permitted to throw up strong shoots from the roots. It will cover ten to fifteen feet a year.

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Horticultural Queries.

The Best Instructor.—I want to grow fruits and vegetables for local trade and perhaps to ship to nearby large cities, and want a guide in regard to these matters.
Findlay, Ill. J. F. WILLIAMS.

You should get "The American Fruit Culturist," price $2. The publishers of the P. F. could get it for you. You may not need any other book than this, as it is very complete. You would find "How to Make the Garden Pay" very useful in the way of keeping up on vegetable growing; and the strawberry subject is well handled. Japanese plums are still considered more reliable than the usual European sorts. Probably you could get the pecan, English walnut and chestnuts from Stark Bros. The firm is reliable. The various books you mention are all worthy of going on your table, but get "The American Fruit Culturist" first, adding others if you think necessary. We wish you success in your enterprise.

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Horticultural Notes.

Crab Apples are not only of an ornamental character in both fruit and flower, but their fruit is of much use for preserves, and many of the improved sorts are as good eating as some apples. Their hardy character recommends them.

Borers.—The frequent inquiries how to keep borers out of trees may be answered by saying that small-meshed wire is the best thing to use. Cut it of a length to admit of its being below ground three inches, and wide enough to allow for its extension as the tree grows. The wire should be painted or galvanized to keep it from rusting.

Protecting Blackberries.—Where blackberries are not hardy they are easily protected in winter by laying them to the ground and covering with a few inches of soil. Cut off the branches on two sides, so that what are left are flat, to tie close to the ground the better. Cut these back to a foot or more; also shorten the top. Cover as soon as freezing weather comes, lifting them on the breaking up of winter.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Does Poultry Keeping Pay?—During spring and summer of the present year, and up to this time, poultry and eggs have been bringing unusually high prices, corresponding with the general increase of other meat prices. This seems to set not only the farmers, but many persons living in suburban homes, thinking, and many people, especially some of little experience, are being tempted by the glittering possibilities or prospects. "There is more money in raising chickens than in anything else," said a neighbor to us recently. When such a statement comes from a plumber, however, we think it is carrying things too far. There is good money in raising chickens far market, no doubt, when you can sell them readily at 50 cents apiece, and frequently at a higher price, and when old fowls bring 60 cents to a dollar per head. Yet a plumber, with a good business, and having all the work he can attend to might better stick to his business, which he understands, than go into something of which he has but the slightest knowledge. When he comes to deal with the intricacies and mysteries and uncertainties of the incubator and the brooder, he will most likely find out that "he is not in it" with the farmer who has learned to understand the business by practical experience. The egg business can be made to pay, too, and even to pay well. Yet we cannot fully and unqualifiedly endorse the following paragraph quoted from an exchange: "It may be safely stated that 500 hens will support a moderate family, and there are few persons who keep more than that number; but, like any other occupation, the expenses must be taken out, and whether the expenses are too great or not depends upon the extent of the operations. As one man can attend to 1,000 hens as well as he can 500, it is plain that the smaller the flock, the greater the proportional expenses."

The beginner who would erect poultry houses and buy a thousand hens, and do his level best, would soon find that his chances of success are largely against him. He may have capital, but he lacks the indispensable experience. In a few years he would have some dearly bought experience and less capital. At least that would be the outcome in nine cases out of ten. A safer way would be to begin in a small way, and expand gradually, or as fast as the knowledge gained would warrant it. As one of our neighbors, who has kept 500 hens, more or less, for many years past, has demonstrated, it is not impossible to house that number under one roof, and make a fair living for a small family from them. Yet the chances of success are all against such massing of laying stock, and it would be safer to divide them into flocks of 25 or 50 kept in separate houses.

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Queries Answered.

Ailing Turkeys.—Mrs. C. L. Hensley, of Lincoln county, Ky., tells of her turkeys sneezing and rattling like a chicken with the gapes. They can hardly make any noise, but eat all the time. The symptoms given are hardly definite enough to enable us to pronounce for sure what ails her turkeys. Turkey chicks, of course, are subject to gapes like ordinary chickens, and it is not improbable that her birds are thus afflicted, and all young chicks are liable to be taken with the disease if kept on infected ground. Among the several older remedies for removing gape worms, air-slaked lime has perhaps been longest in use, and seems to be most promising. Afflicted chickens are placed in a box which is covered with a sheet of thin muslin. On this muslin is placed a handful of air-slaked lime. The muslin is then jarred to cause the dust of the lime to fall through. It enters the lungs of the chickens and causes them to cough off the worms. The fumes of carbolic acid are also said to dislodge the gape worms. Pour a teaspoonful of carbolic acid on a red-hot brick placed in the corner of the box. If there is glass in one end of the box, the chickens will huddle against it and keep away from the corner where the brick is, while their actions may be watched through the glass. Ventilation may be given if needed. A minute is usually long enough to expose them to the fumes.

The Pip.—J. W. Blanchard, of Williamsburg, Va., writes: "We noticed some months ago that our hens were droopy. Their combs would first turn a dark red, then rather pale; the hens stopped eating, and finally died. A few days ago some neighbors said they had 'pip on the tongue,' and at once proceeded to show what they meant by 'pip.' When the tongue was drawn out they directed our attention to a hard formation on the tip end of tongue resembling somewhat the toenail of the hen; this they took off with a needle, since which operation the hens have improved, and bid fair to recover. Did our manner of feeding have anything to do with bringing about this trouble?"—The "pip" is inflammation of the tongue and mouth. Finally a bony scale grows on the point of the tongue, preventing the chick from feeding. Give each a pinch of powdered chlorate of potash, dropping it into the throat and upon the tongue, and remove the scale with the point of a penknife.

Roup and its Treatment.—A. H. Cramer, Columbus, Neb., writes: "Will you please tell me what to do for pink eye in poultry? I have about 100 chickens, and there are perhaps a dozen sick now and several have died. Their eyes and head get a red color and slowly their eyes swell up, and in the course of ten days or two weeks they die."—Most of the diseases (and there may be quite a number of them) which affect the throat and head of poultry, and which lead to ulcerations of and discharges from mouth, nostrils and eyes, are generally known under the somewhat indefinite name of roup. The lighter forms of these diseases are easily cured, others, especially if of a diphtheritic character, usually end fatally. All, however are very similar in symptoms, and require about the same treatment. In bad cases, the best treatment may consist of killing the sick bird, and burying or burning the carcass. Roup in all its forms is a contagious disease. The sick fowl should be kept away from the rest of the flock, and placed in dry, warm quarters. The passage in the roof of the mouth should be thoroughly cleaned, and head and throat bathed in kerosene twice a day. Washing with a weak solution of carbolic acid is also recommended. The U. S. Department of Agriculture recommends the following course: "1. Fowls which have a discharge of any of the mucous membranes of the head, or which have come from flocks where such disease exists, or has recently existed, should not be introduced among other poultry. 2. If the disease appears in one or more fowls of a flock, they should be immediately separated from the well ones. If possible, the source of infection should be determined and removed. * * * * 4. Care should be taken to avoid the possibility of bringing the poison of the disease from affected flocks, in the dirt or excrement which naturally adheres to the shoes in walking through an infected chicken yard. The same care is necessary in the interchange of working implements, such as shovels, hoes, etc." As another precaution, we would, first of all, look to the removal of all cesspools, filth and decaying matter, and to the disinfection of all drinking water by adding a few drops of sulphuric acid (or carbolic acid, or a little copperas (iron sulphate). The kerosene treatment, however, may have special virtue. One of our leading poultry books credits the following to "a poultry journal:" "The use of kerosene is a handy and sure cure. By holding the fowl so it cannot swallow, and filling the throat with the oil, holding long enough to have the oil thoroughly saturate the throat, then allowing the same to run out of the mouth, and by washing the nostrils out, and injecting a few drops into each nasal passage, the effect is magical; and if attended to during the first two days of the distemper, one application generally proves sufficient. * * * * The breathing of kerosene for the twenty-four hours seems to have a most marvelous effect, and restoration to health is the result." This will also answer U. F. Park, Bullsgap, Tenn.

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Pointed Poultry Paragraphs.

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four little iron buttons on the sides. In this way it can be put on or taken off, from the porch roof, in a single minute. They are more commonly put on with screws, but it is not so handy a way. The west windows of sitting rooms and kitchen have also been fitted with extra outside sash, and the north bath room window. Wife's room has a west window, but she wanted it so she could open it, and so she has it. It will make no great difference, if she keeps the blinds closed and shade down. It will make quite a little difference in the amount of fuel needed to keep our living rooms warm, however, where we want the full light. I would hardly go to the expense of storm doors and sash here on the south and east sides of the house, particularly as our home is well protected from wind by tall evergreens. Further north, where fuel is expensive, they might pay well and be all right with proper arrangements for ventilation. You will notice that our sash can be taken off in a minute to let the wind blow through when there is a thorough job of sweeping to do. We would not like storm sash that could not be taken off on such an occasion.

T. B. Terry.

City vs. Farm.

A. L. FENTEISE.

The article by C. J. Eggerichs, "City vs. Farm," published in your issue of Aug. 8th, has just come to notice, and deserves the careful consideration of the much-abused employer who attributes his want of success to the shortcomings of the hired man—the Southerner is poor "because the nigger will not work." Every good workman is willing to admit that there are incapable hands, but does the average employer offer inducements for the intelligent, capable worker? Your contributor tells how the lack of humane treatment prevents his following the occupation most congenial to him. As a man usually succeeds best in the work he is most interested in, one may infer that thus one good farm hand is lost, and why should there not be many similar cases? The case of the married hired man is equally bad. Once he is on the place with his few goods and chattels the thoughtful employer recognizes the expense and inconvenience a change would incur, and trading on this he finds him employment from 4.30 or 5 A. M. until 7.30 or 8 P. M., less half an hour for breakfast and one hour for dinner. In the writer's five years experience on a farm supper has been eaten perhaps three times by daylight, and this on Sundays when milking has been begun unusually early. In addition to the physical strain of working 365 days in the year is the insult to his intelligence by his being required to work this number of hours to earn a living. Not infrequently he is given to understand that he does not do enough work to make the farm profitable—the employer's want of method and practical knowledge, of course, not being taken into account at all. A good deal of the charm of owning a country place seems to consist of owning white slaves to work it. In sanguine moods one is led to hope that in the enlightened future self-interest may prompt the average employer so to treat the hired man that his life may be worth living. It would be Utopian to hope that a sense of humanity will ever bring it about.

Montgomery Co., Pa.

[There are evidently two sides to the hired man question, as with every other human problem. Some day the farmer may find out that the ten-hour system can be worked profitably on the farm, as a general rule. Putting yourself in his place is a good way to find out how to treat the hired man on the farm. The unreasonably long hours on the farm are certainly one of the chief difficulties in getting the best farm labor in competition with other occupations where men get better pay and shorter hours. We tried the ten-hour system years ago and it worked well.—ED.]

Poor Farming in Pennsylvania.

DANIEL OTT.

Traveling overland last week through Bradford and Somerset counties, it hurt me to see so many careless farmers letting all kinds of weeds grow; some ripe and others almost so, and no signs of an attempt to destroy the seed. All weeds should be mowed before the seeds are ripe, when they will not need to be burned, but will answer as a mulch and a material for humus making in the soil, which most of our soils need. One need not stop to inquire where the up-to-date farm papers like the P. F. are taken, for the half crops, weedy fields, old, tumble-down fences, fruit trees either dead or full of water sprouts and all out of shape, poor cattle, sheep and horses, all tell the story that the owner is not a reader. It makes one heart-sick to see the many half-cultivated farms, worn by lack of good plowing and culture; and the worst of it is that there is no way to reach these farmers. They will not attend the Institutes or even be talked into taking a good farm paper. It seems to me that it would be well for the Institutes to carry some inducement like a sort of fair and show to draw them out. I live near a flourishing mining town, where there is a market for all that the country produces. Our farmers mainly grow grain, and the dairy is quite extensively carried on, and there are some good stock farms. But not much attention is given to fruit, while this is one of the best of money crops for this section. Little attention is given to the trees, and there is seldom a farmer who even takes the trouble to prune a tree. So it is no wonder we do not have the finest fruit, since to make fruit a success it must have attention not only in the care of the tree, but in the gathering, sorting and packing of the apples. Better care with poultry would also pay well, as well as the proper handling of dairy products.

Cambria Co., Pa.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Dissolving Phosphate Rock and Feldspar. — W. W. Avery, Plumtree, N. C.—"What apparatus or plant is necessary for the treatment of phosphate rock with sulphuric acid in a small way for farm use? We are near the East Tennessee phosphate deposit, and can get the rock in carloads cheaply. As a by-product of our mica mines we get large quantities of feldspar, carrying a small percentage of potash. Can it be made available for plant food by grinding the rock to a fine powder and putting the powder on the land, or is there any other way in which it can be made cheaply available?"—It is entirely impracticable to make the acid phosphate on a small scale economically. The rock must be pulverized by powerful machinery, and the purchase of the sulphuric acid in small quantities would make the product cost far more than the market price for the manufactured article. The fertilizer factories do this work on a large scale and make their own acid at a tithe of the cost of the commercial article. Where only a few tons are needed it is more economical to buy from the manufacturers than to try to make it. There is no way in which the potash in the feldspar can be made available to plants economically. If it is powdered and spread on the land it will gradually become available through the decomposing influence of the carbonic acid in rain waters. Nature's laboratory is the only one that works cheaply enough to accomplish the end. It may pay to spread the refuse on the land and then through good farming and an occasional application of lime to get the use of the potash. But in lands that are the result of the decomposition of feldspathic rocks it is seldom that any artificial application of potash is needed.

Virginia Lands.—E. W. J., Crossville, Ill.—"I would like to ask some questions in regard to the lands in Eastern Virginia, which are advertised at very low prices as compared with land here. Is the land level or hilly, and if partly both, is the level land as good and cheap as the hilly? Is pine timber growth indicative of poor land? Is the land free of stones? What indications should a stranger in search of land there note? I suppose the help is colored. Is a Northern man treated cordially, or is he ostracised? Would it be wise for a man to sell land here at $75 an acre and buy some of the cheap land there? Do people from the North have trouble in getting acclimated, and is the level land healthy, for I would not think of going to hilly land to farm? Would a man have trouble in getting his help to use up-to-date methods in farming under his direction? The orchard region is hilly, is it not? Would not stock raising pay better than further North where the winters are more severe and longer?"—The Editor gets a great many letters similar to this one, and usually writes a personal reply. But as these queries are so frequent, we think that it may be a help to others to reply in the paper. In the first place we would say that it is impossible for us to advise intelligently in regard to a change of location unless we know the man and his circumstances. One man may make a success where another would fail. Eastern Virginia is rather an indefinite statement. If you had mentioned any particular locality or county we could give a better opinion. There are lands in tidewater Virginia that are good and cheap, because the people have more land than they can improve. There are also areas of very thin and poor land, much of which has been run down in the careless cultivation of the past, but can be easily restored to productiveness by good farming. With means in hand for this improvement it may pay a good farmer to buy these run-down lands, but without cash for this purpose the cheap lands would be of little help, for there is nothing that will so effectively keep a poor man poor as a piece of poor land. The level lands near the water are generally better than the hilly lands. They have been considered malarious, but we know now that malaria is not a thing of atmosphere, and that the air is just as poor in a malarious section as anywhere. Avoiding the use of water from shallow wells, and taking measures to put down the mosquitoes that convey the infection, one can live as healthfully in what is called a malarious section as anywhere. East Virginia is no more subject to malaria than the level prairies of Illinois were when we were out there. The orchard region of Virginia is up in the foothills of the Blue Ridge, where the land, though hilly, is a great deal better than the average in tidewater. There is no doubt that with the abundance of feed that can be grown in Eastern Virginia with the cow pea and other legumes stock raising could be carried on there with success, though comparatively little is done as yet in that line. Whether the pine is an indication of poor land depends on the character of the forest. A dense growth, purely of pine, is usually an indication of an old, abandoned field that has been scratched over and turned out as worn out, and nature is setting about curing the waste of man. Pines in a mixed forest of original growth, associated with oaks and poplars, would not indicate poor land, but rather the reverse. No Northern man is ostracised in the South merely because he is a Northern man, and his social standing will depend entirely on what sort of man he is. In Virginia you will have to work negro hands on the farm, and few Northern men coming South succeed at first in the management of negro labor, and they have to learn how after they get there. We never had any difficulty in getting negroes to work in the way we wanted them. Whether it will pay a man to sell land at $75 an acre in Illinois and buy run-down land in Virginia is a question we cannot answer. If you have such a farm in Illinois paid for, and are making a living and a home, it would hardly be wise to break up and start again under conditions with which you are totally unfamiliar. There is a great opening all over the South for men with means in hand to develop the land, and such men can make money there, but a man with limited capital on a piece of poor land will have as good a chance to stay poor in the South as in the North.

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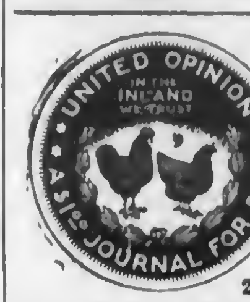

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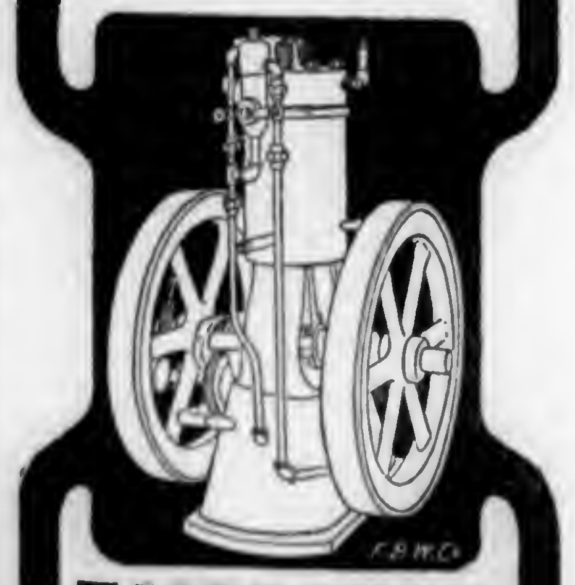

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Extraordinary Ashes.—Calvin Smith, Celona, Pa.—"I can collect some ashes at a manufacturing plant with the following analysis: Nitrogen, 1.15 per cent.; phosphoric acid, 1.09 per cent.; potash, 20.32 per cent. Please give me your opinion of this and its value, and the best way to apply it to the land and for what crops."—Are you sure of that analysis? How does nitrogen get into ashes, and from what source are they to have so large a percentage of potash? Nothing short of cottonseed hulls will furnish ashes with such a content of potash, and if they are real ashes, made by burning anything, we cannot understand why there is any nitrogen left in them. Such an analysis, if the matters are in an available form, will make an excellent fertilizer for land needing potash. Such an article, if in an available form, should be worth nearly $25 a ton. But we cannot help thinking there is some mistake in the matter and that the article is not pure ashes. It will probably be useful as a fertilizer for potatoes or corn on light soil.

Pear for Name.—W. J. Tracy, Harrisville, R. I.—"I send a pear for name. The tree was purchased for Souvenir du Congress, but I am satisfied that it is not true to name."—The pear is evidently a half-grown specimen of the Clairgeau, which ripens in November and will keep until Christmas. Souvenir du Congress is entirely different in shape, being a very large and long pear. Instead of being about half grown at this time, it would be perfectly ripe and soft.

Crimson Clover and Alfalfa.—C. P. Blankenship, Fort Mill.—"When is the time to sow crimson clover, and how to prepare the land? Also proper time to sow alfalfa, and fertilizer for it?"—We suppose our correspondent is at Fort Mill, S. C., though he does not give any State. A man's location is an important matter in advising him in regard to the treatment of any crop. In your part of South Carolina crimson clover may be sown any time in September or early October, and as September is apt to be very dry and hot we have often had better success in October. In fact, at the present writing we are waiting for rain before sowing the crop. Ours is to be put on a pea stubble. This we will merely stir with a cutaway so as to leave the stubble on top, and then sow the seed and roll. A good application of acid phosphate at the rate of 300 pounds or more per acre before harrowing, will be of great help to the crop. Alfalfa needs a thorough preparation of the soil by good plowing and deep subsoiling if the soil is clayey. The land should be put in the finest order and well fertilized. Harrow in 400 pounds of a mixture of five parts of acid phosphate to one of muriate of potash. The sowing is best done in the fall in early September, and as it is now rather late, we would defer until late February. Use 25 to 30 pounds of seed per acre, and if a good stand is had, run the mower over it two or three times the first season to strengthen the clumps and the second season give a dressing of lime at rate of about 20 bu. per acre in the early spring.

Fertilizing Strawberries. — William Masterson, Knoxville, Tenn.—"I have three acres of strawberries in narrow, matted rows on fairly good soil. I wish to improve the size and color of the fruit by commercial fertilizer. What and how much shall I use. We mulch with straw in spring to keep fruit clean."—We would apply the following mixture at rate of 500 pounds per acre at once and 500 pounds more in the spring as growth begins: Acid phosphate, 900 pounds; cottonseed meal, 700 pounds; nitrate of soda, 100 pounds; high grade sulphate of potash, 300 pounds to make a ton. Apply it all between the rows and work it in now and in the spring before mulching. It would have been better had the fertilizer been applied a month earlier, but it will still do well.

Killing Sassafras Sprouts. — W. A. Brevard, Franklin, Ky.—"I have been reading the P. F. for two years and your book on 'Crop Growing and Crop Feeding' with great interest. I have been on my farm but this year, and am convinced that there is something radically wrong in farm methods somewhere. When I go to an old farmer for advice I find that your teachings and his advice do not agree. I have pinned my faith to you and your paper, and come for advice, hoping to show some of my neighbors that it pays to take a good farm paper, and that book 'larnin' ' is a good thing to have, even in farming. My land is infested with sassafras and I want some advice relative to sowing wheat. Corn was given good level culture, and, excepting the bushes, is clean. My neighbors say plow. Your paper advises never to plow corn land for wheat. What shall I do and yet have good wheat or oats on the land? I have about six acres in peas, out of which I chopped the bushes before peas spread much. Would you not advise oats this fall and peas again in the spring? What cover can one use on the garden in winter? People here pay no attention to a winter cover, and few grow peas."—The more you plow and dig sassafras bushes, the more you will have of them. Cut them off at the surface of the ground, and then use smothering crops of grain, peas and clover, and depend mainly on the mower to keep down the sprouts. There is nothing equal to the mower and smothering crops for destroying sprouts in the land. If the land was well plowed in the spring for corn, and has been worked clean and level, it is far better to merely prepare the surface well at this season. Late breaking of the land prevents getting the soil into the well settled and compacted condition needed by wheat. But use the disk or cutaway harrow thoroughly, going over and over again, after cutting the bushes off at the surface and getting them out of the way, and understand that every time you go over with the harrow you are adding to the crop. By plowing now you will cut the roots of the sassafras and will make ten sprouts for every one now there. Therefore avoid cutting the roots more than can be helped. They will sprout, of course, but if you sow clover with the wheat, or on it in spring, and cut the wheat at the proper time, you will cut off the young sprouts. Then, as soon as the rag weeds and sprouts have started again, run the mower over the stubble to destroy them, and you will find fewer sprouts in the fall. If they come up quickly later in the fall, run the mower over again, and the next spring, when you mow the clover, the sprouts will be soft and easily mown off. Then mow the second crop of clover and you will begin to see the sprouts grow fewer. The same process can be repeated if you run the clover a second year. On the land now in peas you can sow oats in the spring and cut them for hay, as it may be too late to sow this fall after you get the land ready. Then when the oats hay is mown you can sow peas again and chop out the sprouts and mow what come later in cutting the peas. Then prepare the land with the cutaway and sow wheat and clover, and repeat as before. The mower is the best tool for killing sprouts. We are sowing crimson clover on all spots in our garden where there will be no winter crops, and will turn it under in the spring for potatoes and sweet corn. No land should lie bare in winter, especially in a Southern climate, but there should always be some green crop to catch and save the nitrates that become available in winter, and return them to the soil in the form of organic matter.

Improving Land in Florida.—G. E. Taylor, Muscogee, Fla.—"I have a piece of run-down land that I want to build up with oats and clover crops. It is light and thin, but not sandy, and has no clay foundation at all. Was broken for clover in June. Will make 15 to 20 bushels of oats or rice, or 10 bushels of corn per acre without manure, if there is plenty of rain from April to June. I have a fair crop of clover which I want to turn under after frost, or in early spring, and sow oats in drills. Which do you advise, fall or spring plowing, and should it be deep plowing. How should fertilizer be applied and what distance should the drills be apart? I want to use 300 pounds of fertilizer per acre. Fruit trees and peanuts show a great difference where lime is applied. Do you advise mixing lime with stall manure? Has sugar corn fodder much manurial value when well rotted in the stalls?"—It would seem that if the improvement of the land is what you are after, that oats are a poor crop for the purpose. You speak of planting oats in drills and ask what distance apart the drills should be. Only the distance a grain drill will put them. But we suppose you want the oats for feed. In that case you can get a great deal more feed, and help the land, too, by planting velvet beans in rows four feet apart and cultivating them. They will give you an immense amount of forage and nitrogen for the soil, especially if you give them a heavy dressing of soft phosphate floats. Lime should never be mixed with manure, as it will carbonate the ammonia and make it volatile so that you will lose it. Kainit is about the best thing to mix with the manure, as it will prevent firing and will add the potash your soil badly needs. Oats will exhaust the soil rather than improve it. Let the clover stand till spring before plowing under, and in March plant the velvet beans if frost is over.

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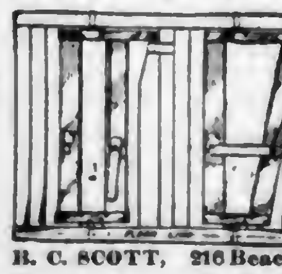

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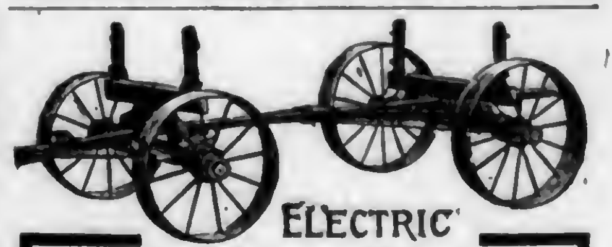

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The Management of Beef Cattle.

PROF. A. M. SOULE.

The season of the greatest interest and concern to the man who proposes to feed beef cattle is rapidly approaching. Now is the time when he must give consideration to the kind and class of animals he will feed the coming winter, for on the selection of the animals depends very much the profits derived from his labors and the price obtained for his foodstuffs. Anyone contemplating feeding beef cattle must think about it a long time in advance in order to arrange matters to the best advantage, locate supplemental foodstuffs which it will be necessary to purchase and secure them for spot cash when the market price is lowest. As a rule, it is a mistake to wait until a few days before it is desired to put cattle on feed to locate them. One then generally has to pay a higher price and has to be satisfied with a class of cattle that are not as good as could have been obtained had forethought and a definite plan formed a part of the contemplated work. Possibly more loss is sustained through a failure to study the markets and the best condition of the cattle trade six months hence—the selling time—than from any other cause. In a number of instances last winter men who had undertaken the feeding of cattle, failed, according to the observation of the writer, because of a failure to map out a definite plan before they commenced feeding. One man, for example, started to feed a number of cattle for the Christmas market. He had had very little experience, and not knowing how long it took to finish an animal found them unfit for the market when Christmas arrived. He had foolishly commenced feeding them a heavy grain ration from the start, thinking by so doing he would finish them rapidly, and thus he found his grain supply pretty well exhausted before his cattle were half finished. He had also fed them about twice as much grain as was necessary to secure a good gain, and hence with half-finished cattle on his hands used to a heavy grain ration, he could not let down on the amount of meal fed. There was no recourse but to increase the supply of meal and continue to feed for several months in order to get rid of the cattle at a fair price. The experiment, so far as he was concerned, was a financial failure, though men in the vicinity where this happened fed cattle at a profit. The other instances referred to, while different in details, were similar in results, and the cause was almost the same. The inference to be drawn is that one who proposes to feed cattle must know what he is trying to do and then must proceed in an intelligent way if he hopes to succeed.

Formulating the plan is therefore the first essential. True, a plan, no matter how well prepared cannot always be adhered to, but it is easier to meet contingencies with one in mind than when going at a haphazard gait. After the cattle are secured many persons make the mistake of putting them on feed at once. Animals brought off the grass will not readily take to a fodder and grain ration. They must be given several days in which to become accustomed to the changed food and surroundings. This is appropriately termed the preliminary feeding period and should cover from 7 to 14 days, the longer period being preferable. During this time very little grain need be fed; just enough to accustom them to its use and to get them to relish it. Give them a fair supply of rough fodder or silage, as the case may be, but do not feed lavishly. The attempt should be rather to teach them to acquire a liking for the new food. Animals will sometimes not take readily to new kinds of food for several days. Examples of this are sometimes seen in the case of silage and cottonseed meal. After they once acquire a taste, however, they eat these foods ravenously. The "putting on feed" process should therefore be slow and deliberate. A violent change of foodstuffs requires a new adjustment of the digestive system, and many people make the mistake of trying to rush cattle on a heavy grain ration in the beginning, with the result that the appetite soon becomes cloyed and the animals go "off feed," something little short of disaster to the feeder. With new foods and forced feeding from the beginning the digestion of the animals is likely to be upset; so the cloying of the appetite and "getting off feed" is often not a simple matter, but something whose effects may be felt for several months. It sometimes happens that the animals never again acquire the keen appetite with which they started out when first put on feed. Thus, the preliminary feeding is a very important period, determining very often the success which will finally be attained.

Where cattle are to be fed for 150 or 180 days to be finished on grass for early slaughter, at least 30 to 60 days should be consumed in bringing them to full feed. In fact, they do not reach what is the final concentrate limit until within the last 30 to 60 days. At the end of the preliminary feeding period of two weeks, the roughness ration may be brought to its full limit, though at this time not more than 4 to 6 pounds of meal is best to feed per head per day. The meal ration may then be increased one-half to one pound per week, depending on the size of the animals. If the animals are being fed for 150 days this will give three months, or twelve or thirteen weeks in which to reach the final limit of the concentrates fed. Animals weighing 800 pounds and receiving 4 pounds of meal when first placed on feed would then be receiving from 12 to 15 pounds of meal per head per day, which is all that they will consume profitably. In fact, in our experience where silage has been fed it has generally been most profitable to limit the meal ration with such animals to 10 pounds, if of cottonseed meal, and to 10 to 12 pounds if consisting of one-third to one-half cottonseed meal and the balance of corn and cob meal. By raising the meal ration gradually the digestion of the animal is never upset nor the appetite impaired, and thus uniform gains are obtained from the beginning to the end of the feeding experiment, something which is absolutely necessary if large gains are to be made, for when an animal gets "off feed" it often takes two weeks to bring him back and during that time he will certainly stand still if he does not lose.

During the progress of the feeding experiment the consumption of roughness will decrease and the concentrates increase, and it is well to bear this in mind and not allow a lot of food to accumulate in the mangers. There is nothing that will throw an animal off feed sooner, or destroy the appetite than to leave the mangers full of spoiled, picked-over food. The mere breathing of the animals on this food makes it distasteful to them, and it will also soon become musty, thereby endangering both the appetite and the health of the animals. The manger should be cleaned carefully each day and washed once in awhile with a strong solution of borax or salt. It may take a little time to do this, but it is labor well expended, for animals on heavy feed are very likely to become dainty, which is to say the least a misfortune.

Care should also be exercised to see that the foods are fed in the most palatable condition. Palatability increases the consumption of food and large and uniform gain can only follow where food is consumed freely and in the best condition for rapid digestion and assimilation. Musty, dirty food should not be offered to animals. Clean, bright hay and fodder can be had just as well as the other kind, if the farmer is a good business man, and if he is not he had better keep out of the cattle feeding business. Should soured or fire-fanged places occur in the silage, throw them to one side, as it is liable to throw the animals off feed and cause indigestion. The same is true of the meal. Cottonseed meal sometimes becomes stale. See that only bright, golden-colored meal is purchased, and then keep it in a well protected place so it will hold its flavor and quality throughout the feeding period. One who contemplates feeding cattle must provide some means for weighing them if the best results are to be obtained. Cattle must be weighed at least every 10 to 15 days in order that an estimate may be made of their gains and the food adjusted to their needs, and it is only in this way that one can keep up with the progress of the respective individuals, for the eye is very deceiving and the best gains are frequently made when one supposes the animals to be standing still. The scales are the best criterion by which to ascertain the individual progress of the animal and the food supplies needed for the best gains. If one finds animals are not making a satisfactory increase in live weight, the food can be readjusted; one concentrate increased or decreased, or a new roughness given. Very trifling changes sometimes give surprising results and it is hard to see how one can hope to feed cattle successfully where no scales are available for weighing them from the time they are first placed on feed until they are ready for shipment. Certainly feeding cannot be done in the absence of a pair of scales with the greatest economy of food.

Another important matter is to see that the animals are uniformly supplied with good pure water and plenty of salt. A lump of rock salt may be kept in the mangers or feeding troughs. A daily currying is a great advantage, as it keeps the skin open and healthy and aids circulation, a very important matter. It is also important to see that the animals are kept in comfortable surroundings; good clean stalls with plenty of bedding. An open lot is not satisfactory where the animals have to tramp through mud and are exposed to the rains of the winter season. Give them some kind of an open shed where they can be clean and well supplied with bedding and you will add much to their comfort and insure a larger gain and a greater profit.

Tennessee Experiment Station.

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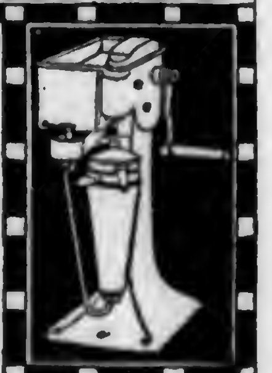

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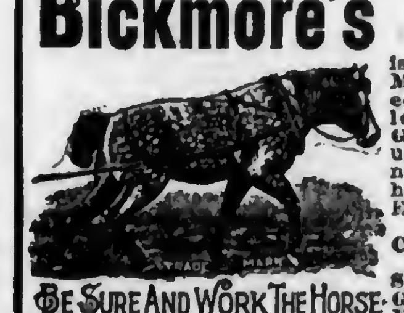
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Corn for Calves.

I. H. WATT.

Requests for my method of feeding corn to calves induces me to write more in detail. I feed the calf nothing until it is 24 hours old. I allow it to remain with the cow an hour or so to get the "first milk." Twenty-four hours later it is abundantly hungry to drink. I never feed them my fingers. They will not drink very much, of course, perhaps not more than a pint, but that is enough. Twelve hours later I feed one quart. Next feed one and a half quarts; next two quarts, and thereafter only two quarts. Two quarts seems a small quantity, but it is enough when corn is fed also. Large quantities of milk alone will stunt a calf. I feed new milk for three weeks, then change to sweet skim-milk for three weeks, then to thick milk; it is better than sour milk. When the calf becomes three or four days old (if its teeth are good and they are invariably) I begin to feed shelled corn. Calves soon learn to eat corn because they relish it. They always want more.

When feeding time comes, if the calf is not hungry something must be wrong. Place a few kernels of good corn in the back part of the calf's mouth by elevating its nose and opening its mouth. It will crack some of them and spit some out, but it gets a taste. Then take a dozen or more kernels in the hand, place the tips of the fingers in the calf's mouth and elevate its nose, allowing the corn to run into its mouth and the "teaching" is all done; no trouble after that. In a week it will eat from a box. Increase the amount to one pint by the time the calf is three weeks old. Feed the same amount regardless of the purpose for which the animal is being raised; the object is rapid growth. For milkers breed young. Raised by this method they will have the proper size. Breeding young induces development of the hips and udder, so much desired in that class of animals. Continue to feed corn to keep the heifer in good flesh, but not enough to fatten. For the beef animal feed corn sparingly until a proper size has been attained, then keep corn before them. They will fatten rapidly and make first-class beef. The object in feeding the corn shelled (to young calves) is that they chew it up, carrying to the stomach an abundance of saliva. Calves fed cracked or ground corn, or ground feed of any kind, suffer from indigestion.

York Co., Neb.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Worms.—What ails our horse? He is 18 years old, and we think he is afflicted with worms, as he has every symptom of worms. He is cross to other horses, has a ravenous appetite, is not in good flesh, is scary, seems nervous and will jump to one side on hearing a noise behind him. I suppose you mean to give linseed oil and turpentine as a drench, although you do not say so in your instructions. Also tell us what to do for 1-year-old greyhound. He has the following symptoms: He is very poor, although he is fed well on nitrogenous and carbonaceous foods; eats grass, then tries to vomit; is nervous; when asleep wakes suddenly and commences barking as if he heard a noise; is cross to other dog; has a ravenous appetite; has not grown off right; is not as large as he should be.

Jeffersonville, Ill. A. COUGHENOUR.

1. Fast horse for 12 hours; then give as a drench slowly from long-necked bottle two ounces of turpentine well shaken up in a pint of raw linseed oil and follow with a drachm of dried sulphate of iron night and morning in his feed. Keep the iron up for one week, then skip ten days and repeat both drench and iron. Have teeth put in good order and avoid feeding hay grown on low, wet land. 2. Dog is afflicted with tape-worm. Fast him for 24 hours, weigh him and give one and one-half grains freshly powdered areca nut to each pound live weight. Give it in cream and follow in two or three hours with a full dose of castor oil in milk. One to two ounces of the oil will be sufficient. Repeat dose in three months unless dog is well.

Indigestion.—Pease give me some idea what is the matter with my mare, 16 or 17 years old. I bought her last spring and she was covered with a scurf and I washed her with salt water until I removed that; she has been shedding all the time. She was very poor when I got her; she has been doing well as far as gaining flesh is concerned. Her flesh is very tender and somewhat scabby, and at times there are lumps on her. I keep her and the stable perfectly clean all the time. I feed her as good clover hay as ever was made, and when she is worked I give her a gallon of oats at a feed. She has plenty of exercise, and when she is not worked she gets no grain. She has a little touch of the heaves. I bred her last spring. I always water before I feed, and dampen hay.

Tyner, Ind. J. M. HUMPHREYS.

Trouble is due to indigestion. Stop feeding clover hay and substitute good upland prairie hay. Wet all food with lime water. Feed a little grain right along and a bran mash twice a week. When she works increase the oats. Always give the drinking water before and not soon after feeding. Give her half an ounce of Fowler's solution of arsenic twice daily until skin is in good shape, then discontinue this medicine gradually, but do not stop it suddenly. Wash skin with a weak solution of the tar product disinfectant advertised in the P. F. If the coat is long, have her clipped at once. It is a mistake to breed a mare afflicted with heaves.

Lame Cow.—I have a cow about 6 years old; started lame on right hind leg last May while out on grass. Had a calf the fore part of June all right, but did not get over her lameness, and about ten days ago commenced being lame in left hind leg. Trouble seems to be in hips. She is failing a little in flesh, but otherwise seems all right except hard for her to get up after lying down. It seems like rheumatism, but I never heard or saw a case like it before.

Ice Lake, Con. ROBERT BRETT.

Cows suffer from rheumatism in this way but we also frequently find cases of tuberculosis of the bones of the lumbar vertabræ. For this reason it might be well to have her tested with tuberculin to make sure. If she proves to be free from that disease then treat her as follows: Three times daily give her fluid extract of nux vomica, commencing with ten drops at a dose and increasing a drop or two daily until the muscles are seen to twitch involuntarily, at which stage go back to the first dose and repeat. Also give her a tablespoonful of Fowler's solution of arsenic night and morning and rub the loins once daily with a liniment composed of equal parts of turpentine, aqua ammonia and raw linseed oil. When the skin becomes sore stop using and apply lard. Feed well on ground oats, bran and flaxseed meal.

Diseased Tooth.—I have a fine mare 12 or 13 years old. About the 1st of July she began to act as though her mouth or teeth were sore. She could not chew her feed good, especially hay. Her jaw at circle below right ear was considerably swollen. Took her to a veterinary surgeon; he examined her teeth and said the back tooth on that side ought to come out. He lanced her jaw in two or three places. Then he said the bone had been broken; the tooth was almost black and badly ulcerated at root. J. S. STANSELL.

Mt. Vernon, Mo.

We presume that an upper molar tooth was removed by extraction. It would have been better to remove it by trephining through bone of face, so that cavity might be flushed out with antiseptic solutions. This should be done now by a veterinarian. Also give the mare internally a drachm of dried sulphate of iron night and morning in feed as a tonic. This will help to dry up the discharge. It cannot be given safely if she is in foal.

Rheumatism.—I have some 10-weeks-old pigs, in good condition and growing nicely, but noticed a few days ago that they showed signs of soreness, or weakness, in back just behind the shoulders. When walking will flinch and give down in front legs, and are very tender to touch. Also noticed a sow with same symptoms today that I just bought three days ago. I feed a mixture of ground corn, rye, bran and oats; also cut cane and cow peas; they are kept in small lots.

Milan, Ind. B. PARSON.

The trouble is doubtless rheumatism induced by sleeping in damp place or pasturing low, wet ground. It has been rather common this summer, owing to unusual wet weather, and in some cases a similar trouble has been produced by scalding when going in rank growths of clover or rape. The flinching in the latter case is due to tenderness of the skin. Change the pigs onto dry ground and give them a dry bed where the sun can get at it. For a time feed lightly on slop of middlings and bran with milk and reduce feed of cane and peas. Twice daily give ten grains each of salol and salicylate of soda in any way found most suitable. If joints or other parts are found to be swollen or sore to the touch rub them twice daily with a liniment composed of two ounces of tincture of opium, one ounce of tincture of iodine, and soap liniment to make half a pint; shake.

Asatoria.—For a week my horse has been unable to stand long; his legs appear to be all right; no, or very little, pain in them. He eats well; he appears to have inward pain at times. The veterinarian here calls it asatoria, or partial paralysis. Will he recover? What shall I give him?

Belvidere, N. J. OLIVER J. SMITH.

We are unable to advise in this matter, as you furnish no particulars from which a definite idea could be formed regarding the nature of the trouble present. As you have a veterinarian in attendance he will doubtless give the case intelligent treatment.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Moles and Mole Traps.

Additional to what I have already said about the mole, and trapping moles, let me quote what a writer tells about it in the Rural. He says:

"One of the compensations of really dry weather is the relative freedom of annoyance from moles. As the soil surface dries and hardens earthworms descend to the lower levels of cultivation and the moles, in pursuit of their natural and almost exclusive prey, burrow so deep that vegetation above is little disturbed. Soaking summer rains, however, bring both the worms and moles to the surface with a rush, and the gardener, after weeks of immunity from destructive upheavels, finds his grass plats and choice plantings plowed up with astonishing rapidity. The only practical remedy is in the form of traps —plenty of them—and due diligence in using them. This advice, so frequently offered, seems irritating to many, who nevertheless loudly proclaim their annoyance at the mole's depredations. Some intelligence must be used in locating the more permanent runs and in setting the trap so that the trigger pan does not press so closely on the packed soil that the trap springs before the mole gets fairly under the prongs. The Hale, Olmsted and Reddick traps are equally good if used with discretion. This has been said many times, but will bear repetition. We cannot exterminate moles within the Rural Grounds, as they continually come in from adjoining fields, but a prompt use of traps on all new runs has always forestalled serious damage. During the spring drought there was no surface evidence of moles, but the rainy weather of June and again the present month brought in an unusual number of half-grown individuals that began to plow up our loosely-tilled soil with great energy. They were quickly intercepted by the traps and we are again measurably free from their attentions. Twenty-six moles were caught within three weeks, making a substantial reduction in those neighborhood nuisances."

Talks on Timely Topics.

The Hand Truck. — Another thing that we find especially useful, almost indispensable, is our hand truck. During the earlier part of the season we keep the barrel on it for carting water, Bordeaux mixture, etc., to the places where wanted. But when the harvest season approaches, when we have to gather cabbages, cucumbers, green stuff of all sorts, or when we want to gather up lawn clippings, weeds, grass for the cows or horses, or dry leaves in the fall, the barrel is removed and the "leaf rack" (a light frame made by the "Iron Age" people) placed and kept on the truck. It is a most handy thing to have on the premises of any rural or suburban home. Again I quote from Mr. Cheever: "Another thing of my own make, chiefly, is a hand-cart that holds nearly twice as much as an ordinary wheelbarrow and is handled much easier. The wheels and axle were formerly part of a light buggy. With a little wheelwright and blacksmith work I have a push cart that has done excellent service nearly twenty years and is good for many more. All my tools are kept housed when not in use and are kept clean and bright."

This shows that one can have such conveniences even without going to extra expense, for, of course, one of the regular barrel trucks and leaf racks cannot be bought for less than $10 or $12. Even at that figure, however, it is more profitable to have it than to do without it where it is of so much use as on our place.

Thinning Tomatoes.—Trials in thinning the fruit on tomato vines have recently been made by the Arkansas Experiment Station. The results showed that thinning slightly reduced the total yield (about 10 per cent.), but made the individual fruits larger. In our own ordinary varieties (Stone, Honor Bright, Success and several others) we can see very little need of thinning, as they all give nice large specimens, and a good proportion of foliage to the fruit, anyway. There is one variety, however, for which thinning seems almost indispensable. That is the Earliana (Sparks's Earliana). We had planted our Earliana and another kind which appears to be very similar to it (Chalk's Early Jewel, I believe) on excessively rich soil, for the very purpose of stimulating the growth of leaf and stalk rather than of fruit, and the plants did make an enormous mass of vines; yet they set fruit abundantly, in fact, excessively, just the same, and the perfecting of all this fruit with which the ground is covered, seems to make such big demands on the plants' vitality, that the top growth is checked, and its life endangered. Of all varieties known to me, Earliana and its kind are the only ones that really require thinning, or for which it is an advantage, unless fruits of especially large size are wanted, and I think we shall not neglect such thinning with the Earliana again.

Current Comments.

Growing Rhubarb at the South.—A reader in North Carolina recently asked if there is not a way for him to grow rhubarb. He has tried a number of times, raising the plants from seed, and taking all possible pains with them, even going so far as to provide partial shade, as he is very fond of the acrid stalks, yet they have invariably died when summer came. We grow rhubarb here to perfection, both in early spring and sometimes towards fall. But usually the stalks show but little vitality and make but little growth during hot summer weather. I asked our accomplished chief editor, Prof. Massey, how rhubarb behaves with him, and he replied as follows: "In reply to your query I have to say that I have never succeeded in growing a stalk of rhubarb in North Carolina. It may possibly succeed on a piece of low bottom or intervale land, but I have never tried it on such land. In my garden here I have tried planting roots from the nursery, I have tried growing it from seed in the place where I wanted it to remain, but one summer always finished it, and I have quit trying to grow it. I would be glad to be able to grow it, for I am fond of it and we lack these acid things, since, of course, we cannot grow gooseberries and currants."

Growing Celery for Market.—C. M. Linn, Pine Bluff, Ark—"I intended to purchase celery plants and put out some ten or fifteen thousand about September 19th to October 1st. I have but little experience in the culture. Set out a few hundred last year, September 19th, and was fairly successful. Bleached with paper and boards. Am interested in the new method of close planting (5 to 10 inches) and bleaching that way. The point with me is, if grown that way without handling, will not the plants be spread out and not in good form for market? Should it not be handled, and if so would it bleach sufficiently? As I understand, this is for the self-bleaching sorts and would not do for Giant Pascal and others of like character. My water supply will be windmill, elevated tank of 300-barrel capacity."—The need of close-planted celery is not so much the handling as the proper blanching. The plants, without handling, grow in as good form as any market can desire. Yet they do not always blanch as nicely (even if the White Plume looks white) as is desirable, or as they will when light is excluded by boards or earth. Earth blanching gives probably the highest quality. I have had celery do exceedingly well under the "new method" of close planting, and had no trouble to sell all I had at paying figures. And yet at other times, and on rich soil, too, they failed to come up to expectations. I would not risk a large patch in that way, even if I thought the conditions were all favorable, and with plenty of water at hand for irrigating purposes. I usually plant in single or double row, and blanch by means of boards. The late non-self-bleaching varieties (Pascal, Evans' Triumph, New Winter Queen) do best when blanched by earth banking in the fall, or during storage in cellar or trench.

The Lutie Grape.—L. G. Perry, West Plains, Mo.—"In 'Notes from a Carolina Garden' in an August issue of P. F. you mention a red grape called the Lutie. Please tell me where I can get a vine or two."—I must leave it for the readers of the P. F. to look through the catalogues of seedsmen and nurserymen for things of this kind. The Lutie, as I remember it, is sweet, but oh, so foxy! This, however, is no disqualification in the estimation of many grape lovers. Get a lot of catalogues.

Notes from a Carolina Garden.

It is a little odd that many of the books on vegetable gardening tell us to sow the prickly seeded spinach in the fall and the round seeded in the spring. The fact is that no experienced gardener ever sows the prickly seeded sort in the fall, and market gardeners seldom sow it at any time. We are reminded to say this from the fact that we are just now preparing to sow our main crop of spinach. We are going to try on this the new importation of Peruvian guano, which Mortimer & Co., of New York, are now importing. It is not as high in ammonia as the old Chincha Island guano of our boyhood, but it is now sold at a reasonable price and is well worth trying, for analysis shows it to be of higher grade than many of the brands of mixed goods offered at a higher price. We will sow the spinach seed in rows twelve inches apart and rather thickly, so that we can cut it out during the winter, leaving the centre buds to shoot again. Chinese Rose Colored radishes will also go into the ground the last week in September, and a second sowing will be made in October, for if the fall weather is late and favorable the first sowing may get too large to carry us all winter. When the weather gets cold after Christmas we put some rough manure between the rows as a protection, and then if the tops get nipped by frost they will shoot again. We usually have these radishes to pull all winter until March, when the lettuce of the late crop takes their place. In the flower garden the gladiolus corms are ripe and are being lifted for the purpose of sorting out the young bulblets and getting the large ones ready for sale or planting again. Otherwise there is really no need for lifting them every fall, since in this climate they stand the winter with the cannas in the ground. The cannas have the dead tops cut and spread over the bed to keep the frost out, and they keep better there than lifted. We lift and divide them in the early spring and reset to prevent their getting too much crowded in the beds. Our commercial growers, who plant forty to fifty acres in cannas, take them up in the fall and pile in windrows across the field and cover with soil so that they can be taken up for shipping at any time in winter or spring. They keep much better in this way than stored in cellars. The general planting of the fall bulbs is close at hand. The various kinds of narcissus can now go into the ground, with the exception of the polyanthus section. These have a reputation for being tender, and probably they are in the North, but here we have found them perfectly hardy if not planted too soon. Planted at the time the other narcissus should be, they grow at once and thus have their foliage exposed to the coldest weather. But planted after the ground gets cold in December they do not start until it is safe to do so. The nerines, or Guernsey lilies, have been blooming for two weeks. And yet if we take up any of the fall bulb catalogues we find these and the Sternbergias listed, and people getting them long after they should be in bloom are disappointed at not getting the flowers. As these bulbs have to be planted or potted in July for the fall bloom they should be listed in the spring catalogues with the note that they are deliverable in July.

There is a general complaint among our lettuce growers that the dry weather has prevented their getting lettuce plants up by the first of September, and the sowings the middle of September are for the mid-winter crop, while a sowing the first of October is for plants to winter over for spring setting. So far we have few plants from two sowings and the prospect for plants looks gloomy. The winter lettuce crop is getting to be an important one in North Carolina, since the crop will usually run up over one hundred thousand dollars altogether, and a scarcity of plants at the right time is a serious hindrance. Our last planting of the Giant Improved sweet corn is just tasseling, and we hope to have some fine ears from it before frost comes. At the farm a good crop of corn is maturing on land from which a crop of wheat was cut in June, and two tons of cow pea hay are being harvested per acre from the same land that made nearly two tons of wheat and vetch hay in the spring. This is the advantage a long summer climate gives.

Points and Pickings.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Pink Dogwood.

Everyone who has seen the wild woods in early spring knows of the common white dogwood and its lovely flowers, as it is native of all the woods in nearly all the States; and in a slightly different form is found in the Pacific States as well. In almost every woods are to be seen varieties departed from the usual pure white color and possessing more or less pink in their flowers. It was for the South to furnish a lovely sort in the shape of a variety of this dogwood of a deep pink color, the one now known in nursery lists as the pink dogwood, the variety having been found wild in Virginia. It is one of the grandest acquisitions in the way of a large shrub or small tree ever introduced. In the vicinity of Philadelphia, where it has been largely planted, it is one of the features of the place in early May, when in flower. As with all varieties, it cannot be depended on to come true from seed, so it has to be raised by budding or grafting it on the common stock, but nurserymen have found a way to do this successfully, so that it is not a costly shrub to obtain. Those having room for it would never regret planting it.

Horse Chestnut for Shade.

The European chestnut is frequently planted as a street tree, as is evidenced by the specimens seen in many cities. Rarely are the trees of any credit in such situations, but, instead, of a stunted and unsatisfactory growth. The tree is subject to a leaf blight, which destroys the foliage to such an extent that, at times, by mid-summer, not a leaf is on them. This leaf blight is far more prevalent on trees in cities than on those in the country, the heat and confinement of the city evidently aiding its development. But when planted in the country a far different result is obtained. On some of the farms near cities, where the roots of the trees are in cool ground and the tops are unconfined, the horse chestnut keeps healthy and forms a magnificent tree in time. On the Chew estate, the historic grounds where Washington fought the battle of Germantown, there are several exceedingly fine specimens, fifty to sixty feet high, and these trees maintain the deep green of their foliage from early spring until the last thing in the fall. Their well doing is undoubtedly due to their growing on the lawn, where their roots are in cool ground, and to the partial shade and coolness of the air, caused by other large trees near them. In the cool yards of many farm houses I have seen the horse chestnut flourishing grandly. Its large panicles of white flowers in May, with the beautiful green of its leaves, makes it a most pleasing object at that time. What is called the American horse chestnut, also our native buckeye, make good shade trees; and delight in localities such as indicated as the best for the European. The red-flowered horse chestnut, catalogued by nurserymen as Aesculus rubicunda, has lovely red flowers, besides handsome dark foliage. In Europe, it is much esteemed, and is much used for avenue planting; not so much for shade —for it does not grow as large as the other—but for its general beauty when seen along the length of an avenue. Horse chestnuts start into growth early in spring, hence should be planted the very first thing, or else in the fall.

Clematis Paniculata.

In years gone by our chief reliance for a sweet scented, feathery white clematis was on the flammula, the one known as the sweet scented, from the South of Europe. It is true there were besides, the wild one, Virginiana, and the English species, known as the traveler's joy, but neither of these was sweet scented, though strong growers. In the one of which we write, paniculata, a Japanese species, we have the best of its class ever introduced. It possesses all the good qualities of the others, with many additional ones as well. It is as hardy as it can be, has an abundance of bright green leaves, which are free from insect attacks, grows vigorously and flowers profusely. An additional point in its favor is its late flowering. It does not bloom until towards the first of September, continuing all of that month, its masses of white flowers being uncommonly beautiful. It is just the thing for arbors, posts or for fences, or any place where a summer vine is required. Although it is quite hardy, it does best when cut down every spring and permitted to throw up strong shoots from the roots. It will cover ten to fifteen feet a year.

Horticultural Queries.

The Best Instructor.—I want to grow fruits and vegetables for local trade and perhaps to ship to nearby large cities, and want a guide in regard to these matters.
Findlay, Ill. J. F. WILLIAMS.

You should get "The American Fruit Culturist," price $2. The publishers of the P. F. could get it for you. You may not need any other book than this, as it is very complete. You would find "How to Make the Garden Pay" very useful in the way of keeping up on vegetable growing; and the strawberry subject is well handled. Japanese plums are still considered more reliable than the usual European sorts. Probably you could get the pecan, English walnut and chestnuts from Stark Bros. The firm is reliable. The various books you mention are all worthy of going on your table, but get "The American Fruit Culturist" first, adding others if you think necessary. We wish you success in your enterprise.

Horticultural Notes.

Crab Apples are not only of an ornamental character in both fruit and flower, but their fruit is of much use for preserves, and many of the improved sorts are as good eating as some apples. Their hardy character recommends them.

Borers.—The frequent inquiries how to keep borers out of trees may be answered by saying that small-meshed wire is the best thing to use. Cut it of a length to admit of its being below ground three inches, and wide enough to allow for its extension as the tree grows. The wire should be painted or galvanized to keep it from rusting.

Protecting Blackberries. — Where blackberries are not hardy they are easily protected in winter by laying them to the ground and covering with a few inches of soil. Cut off the branches on two sides, so that what are left are flat, to lie close to the ground the better. Cut these back to a foot or more; also shorten the top. Cover as soon as freezing weather comes, lifting them on the breaking up of winter.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Does Poultry Keeping Pay?—During spring and summer of the present year, and up to this time, poultry and eggs have been bringing unusually high prices, corresponding with the general increase of other meat prices. This seems to set not only the farmers, but many persons living in suburban homes, thinking, and many people, especially some of little experience, are being tempted by the glittering possibilities or prospects. "There is more money in raising chickens than in anything else," said a neighbor to us recently. When such a statement comes from a plumber, however, we think it is carrying things too far. There is good money in raising chickens far market, no doubt, when you can sell them readily at 50 cents apiece, and frequently at a higher price, and when old fowls bring 60 cents to a dollar per head. Yet a plumber, with a good business, and having all the work he can attend to might better stick to his business, which he understands, than go into something of which he has but the slightest knowledge. When he comes to deal with the intricacies and mysteries and uncertainties of the incubator and the brooder, he will most likely find out that "he is not in it" with the farmer who has learned to understand the business by practical experience. The egg business can be made to pay, too, and even to pay well. Yet we cannot fully and unqualifiedly endorse the following paragraph quoted from an exchange: "It may be safely stated that 500 hens will support a moderate family, and there are few persons who keep more than that number; but, like any other occupation, the expenses must be taken out, and whether the expenses are too great or not depends upon the extent of the operations. As one man can attend to 1,000 hens as well as he can 500, it is plain that the smaller the flock, the greater the proportional expenses."

The beginner who would erect poultry houses and buy a thousand hens, and do his level best, would soon find that his chances of success are largely against him. He may have capital, but he lacks the indispensable experience. In a few years he would have some dearly bought experience and less capital. At least that would be the outcome in nine cases out of ten. A safer way would be to begin in a small way, and expand gradually, or as fast as the knowledge gained would warrant it. As one of our neighbors, who has kept 500 hens, more or less, for many years past, has demonstrated, it is not impossible to house that number under one roof, and make a fair living for a small family from them. Yet the chances of success are all against such massing of laying stock, and it would be safer to divide them into flocks of 25 or 50 kept in separate houses.

Queries Answered.

Ailing Turkeys.—Mrs. C. L. Hensley, of Lincoln county, Ky., tells of her turkeys sneezing and rattling like a chicken with the gapes. They can hardly make any noise, but eat all the time.—The symptoms given are hardly definite enough to enable us to pronounce for sure what ails her turkeys. Turkey chicks, of course, are subject to gapes like ordinary chickens, and it is not improbable that her birds are thus afflicted, and all young chicks are liable to be taken with the disease if kept on infected ground. Among the several older remedies for removing gape worms, air-slaked lime has perhaps been longest in use, and seems to be most promising. Afflicted chickens are placed in a box which is covered with a sheet of thin muslin. On this muslin is placed a handful of air-slaked lime. The muslin is then jarred to cause the dust of the lime to fall through. It enters the lungs of the chickens and causes them to cough off the worms. The fumes of carbolic acid are also said to dislodge the gape worms. Pour a teaspoonful of carbolic acid on a red-hot brick placed in the corner of the box. If there is glass in one end of the box, the chickens will huddle against it and keep away from the corner where the brick is, while their actions may be watched through the glass. Ventilation may be given if needed. A minute is usually long enough to expose them to the fumes.

The Pip.—J. W. Blanchard, of Williamsburg, Va., writes: "We noticed some months ago that our hens were droopy. Their combs would first turn a dark red, then rather pale; the hens stopped eating, and finally died. A few days ago some neighbors said they had 'pip on the tongue,' and at once proceeded to show what they meant by 'pip.' When the tongue was drawn out they directed our attention to a hard formation on the tip end of tongue resembling somewhat the toe-nail of the hen; this they took off with a needle, since which operation the hens have improved, and bid fair to recover. Did our manner of feeding have anything to do with bringing about this trouble?"—The "pip" is inflammation of the tongue and mouth. Finally a bony scale grows on the point of the tongue, preventing the chick from feeding. Give each a pinch of powdered chlorate of potash, dropping it into the throat and upon the tongue, and remove the scale with the point of a penknife.

Roup and its Treatment. — A. B. Cramer, Columbus, Neb., writes: "Will you please tell me what to do for pink eye in poultry? I have about 400 chickens, and there are perhaps a dozen sick now and several have died. Their eyes and head get a red color and slowly their eyes swell up, and in the course of ten days or two weeks they die."—Most of the diseases (and there may be quite a number of them) which affect the throat and head of poultry, and which lead to ulcerations of and discharges from mouth, nostrils and eyes, are generally known under the somewhat indefinite name of roup. The lighter forms of these diseases are easily cured, others, especially if of a diphtheritic character, usually end fatally. All, however are very similar in symptoms, and require about the same treatment. In bad cases, the best treatment may consist of killing the sick bird, and burying or burning the carcass. Roup in all its forms is a contagious disease. The sick fowl should be kept away from the rest of the flock, and placed in dry, warm quarters. The passage to the roof of the mouth should be thoroughly cleaned, and head and throat bathed in kerosene twice a day. Washing with a weak solution of carbolic acid is also recommended. The U. S. Department of Agriculture recommends the following course: "1. Fowls which have a discharge of any of the mucous membranes of the head, or which have come from flocks where such disease exists, or has recently existed, should not be introduced among other poultry. 2. If the disease appears in one or more fowls of a flock, they should be immediately separated from the well ones. If possible, the source of infection should be determined and removed. * * * * 4. Care should be taken to avoid the possibility of bringing the poison of the disease from affected flocks, in the dirt or excrement which naturally adheres to the shoes in walking through an infected chicken yard. The same care is necessary in the interchange of working implements, such as shovels, hoes, etc." As another precaution, we would, first of all, look to the removal of all cesspools, filth and decaying matter, and to the disinfection of all drinking water by adding a few drops of sulphuric acid, carbolic acid, or a little copperas (iron sulphate). The kerosene treatment, however, may have special virtue. One of our leading poultry books credits the following to "a poultry journal:" "The use of kerosene is a handy and sure cure. By holding the fowl so it cannot swallow, and filling the throat with the oil, holding long enough to have the oil thoroughly saturate the throat, then allowing the same to run out of the mouth, and by washing the nostrils out, and injecting a few drops into each nasal passage, the effect is magical; and if attended to during the first two days of the distemper, one application generally proves sufficient. * * * * The breathing of kerosene for the twenty-four hours seems to have a most marvelous effect, and restoration to health is the result." This will also answer D. F. Park, Bullsgap, Tenn.

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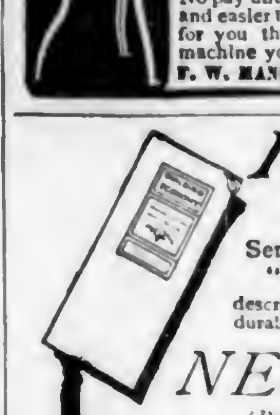

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THE ability of the average newspaper reporter to get up botanical freaks, and the readiness with which papers that ought to know better take up with their yarns, is amazing. The latest thing out is from the Los Angeles Times, and is copied into the Prairie Farmer. It tells of a wonderful tree entirely unknown to botanists, that has been discovered near San Bernardino. It has leaves like a fig tree, but of a vivid purple color, and thickly strewn with sharp hairs on the under side, which penetrate the flesh and are rank poison. Then the blossoms are a good imitation of the tarantula spider. And then all at once the account says that this thing which he began to describe as a tree is a monstrous bulb in the shape of the abdomen of the spider, and it has several "chives," or stamens, corresponding to the legs of the spider, and the plant gives off a deadly odor resembling chloroform, which makes those who approach it unconscious. The wonder is that any paper should copy such arrant nonsense. The tree with leaves like a fig, and branches that no botanist can identify, is all at once a monstrous bulb that has "chives," or stamens. What a chive is we cannot say, but a bulb with stamens is something remarkable. The whole thing is a fake. The versatile reporter proposes the names of tarantula plant or chloroform tree. He seems to be somewhat mixed with his imaginary thing and does not know whether to stick to the one story or the other, whether it is a tree or a bulb. Agricultural papers need to have someone at hand who knows a little botany, in order to prevent their giving currency to such nonsense. The flora of California has been as thoroughly studied as that of any State, and such a vegetable monstrosity could hardly have escaped the notice of botanists.

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Rural School Houses.

A great deal has been said and written of late in regard to the teaching of nature and the elements of agriculture in the rural schools, and we are glad to notice the tendency in this direction. But the teaching will be far more effective if the children have object lessons around the school house. The bare and cheerless grounds around most of the country school houses give the pupils little idea of what natural beauty should be, and are generally examples of how ugly and uninviting the premises can be made. Now that the time for the planting of hardy trees and shrubbery is coming near at hand it is time to make some plans for the beautifying of the grounds around the school house. Nature studies will be far more attractive to the pupils if they have a part in the practical application of some of the things they may be taught. Get the children interested in the making of the premises attractive. Prepare a well considered plan for the grounds, and while it may not be possible to carry it all out at once, keep working by degrees on the plan until it is complete. Arrange for a good breadth of grass plat framed in with shrubbery and trees. Plant quick-growing shrubbery and vines to screen the outbuildings. As a help in the work send to the Secretary of Agriculture in Washington and ask for a copy of Farmers' Bulletin No. 134, on "Tree Planting on Rural School Grounds." This will give you some good ideas of what to do and what not to do. A teacher who is really a lover of nature can easily get the children enthused with the work, and cause them to take pride in the improvement of the surroundings of their school house. The bulletin named gives plain instructions about raising the trees needed in a little nursery, and the growing of the trees can be made a very useful study. Then most of the hardy shrubbery can be grown from cuttings that can be had in almost any neighborhood. If these cuttings are made in the fall after the leaves are off, and buried in bundles out of reach of frost, they can be set in the spring in rows for the production of the plants. At any rate, whether it is possible to buy the trees or not, the teacher who is in earnest in the work can soon raise the needed material and teach the pupils a useful lesson at the same time.

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Ginseng.

Hardly a mail that comes to the Editor fails to bring him an inquiry from someone in regard to the culture of ginseng. The daily papers have been telling such wonderful stories about the profit to be derived from the cultivation of this plant that the men who are always ready to take up the cultivation of something they have never had any experience with, at once write to the Editor as a sort of encyclopedia of information in regard to every sort of culture. The Editor of the P. F. has never cultivated any ginseng, and never expects to. He lives in a section where it does not grow wild, and where it would be useless to try to cultivate it. Whether anyone has really been successful in the cultivation of this plant we think is open to some doubt. There are plenty of people who will sell you the roots and seed and tell you how to grow them, but as the plant grows wild in many sections of the United States, it is easy to get these when the price is good. The Orange Judd Co., of New York, we notice, have published a book on ginseng culture, by N. G. Kains, and it probably has full information. The price is 50 cents.

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The Proper Use of Lime.

An experienced Scotch farmer and subscriber to the P. F., Mr. J. P. Bowie, now living in North Carolina, sends us a clipping from a paper of his native land telling of a visit of a party of Ayrshire farmers to Dalmeny Park, where Dr. John Hunter has charge of the experimental work being carried on on the estate. The Doctor said that the Dalmeny Station is the only Experiment Station in the world where the research work is carried out on biological lines. We are hardly ready to agree to this, since at several of the American Stations much biological work is being done. But the experiments at Delmeny in the use of lime are very interesting. He said that his experiments proved the enormous advantage of the annual application of 500 pounds of ground lime per acre. The old plan of applying immense quantities of lime at long intervals he said was absurd and wasteful. All the advantageous bacteria in the soil require lime, and hence the need of keeping up a supply of fresh lime in the surface soil. More liberal applications of lime and an application of 800 pounds per acre of kainit are needed there to prevent the finger and toe disease in turnips, which is a great trouble there, where the root crops are of far more importance than in this country. But what seems to us the crux of the matter is the advice to apply lime more frequently and in small quantities, and to use the fresh ground lime. We have long urged that a light application of lime more frequently repeated is a great deal better than heavy applications at long intervals. This is especially true in a soil abounding in humus, for it is now known that the bacteria of nitrification can get their carbon directly from the lime carbonate, and hence the nitrification is far more rapid in the presence of a plentiful supply of lime in the soil. As the lime soon gets into the more insoluble state and sinks rapidly in the soil, a frequent light application would seem to be wise, as it would keep some lime in the surface soil where the organic matter mainly lies. But we think that it is questionable whether in this country and with our system of farming an annual application is desirable. In a short three or four-year rotation an application once in the rotation would, we think, be sufficient.

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The Cotton Crop of Today.

The last number of the Review of Reviews has an instructive article by the editor of the Manufacturers' Record, with the above title. This article presents some very striking figures. Since June, 1881, the exports of flour, wheat and corn aggregated in value $4,190,000,000, while the cotton, cotton goods and cottonseed products for the same period exported amounted to $5,900,000,000. Two years ago, the writer says, our corn crop was cut short 40 per cent. by drought and hot winds, but that enormous decrease did not create any excitement in the financial and manufacturing centres of the world, and did not even halt the phenomenal progress of Western railroad construction, but it would take a vivid imagination to picture the disasters that would follow a 50 per cent. decrease in the cotton crop of this country, to such an extent is the industrial welfare of the world dependent on this crop. The writer further remarks that the Northern traveler in the South, who has been accustomed to grass and green fields, thinks the Southern soil looks very poor, and he wonders how cotton growing can support the growers. But he little understands the situation. The average value per acre of the cotton crop for the year 1901 was $22. The average value per acre of the wheat crop in the same year was $9.79 per acre, and the average value per acre of the corn crop of the country was $10.82. On the richer and better farmed lands of the South the value per acre will run up to $40 or $50. With a crop that produces such results as these with the acknowledged poor farming, it is hard to estimate its value if the whole South was farmed as it should be. Northern farmers going South seldom want to go into cotton culture, because they attribute the worn character of much of the land to the crop, when in reality the crop is one of the least exhaustive of crops if the meal from the seed produced is returned to the soil, either directly or through feeding it to stock. At the prices now commanded by cotton the figures above given will be nearly doubled, and anyone can see what would be the result if the cotton crop of today was produced on half the number of acres while the rest of the land was growing forage crops and feeding stock. The article we have noticed closes with the following suggestive remarks: "In 1900 there were 302,000 hands employed in the cotton mills of this country. On this basis the full utilization in our mills of the ten and a half million bales we now produce would furnish employment for nearly a million operatives. For the control of this vast industry, employing a million people, probably two billions of capital, and producing about $1,500,000,000 a year of finished goods, the South is now beginning to contend. It is a prize worth the struggle, for it is enough to enrich an empire. Add to the $500,000,000 or $550,000,000, the present value of the cotton and seed crop, the $1,500,000,000 as the value of the finished product, and the $125,000,000 as the present value of the product of the cottonseed oil mills, and the total of about $2,250,000,000—merely, of course, a rough estimate in round figures—is the dazzling wealth which the South, by natural advantages, has the right to claim and the certainty of eventually winning."

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The Cream of the Bulletins.

University of Missouri, Agricultural Experiment Station, Bulletin No. 62. Hessian Fly in Missouri. By J. M. Stedman.

The summary states that there are usually three broods of the Hessian fly each year in Missouri, although in some years there may be but two, while in other years there may be four. This great variation in the number of broods from year to year in a given locality is a result of the influence of temperature, and especially of wet or dry seasons, in accelerating or retarding their development. The last, or fall, brood, and the first, or spring, brood are the two most destructive, and since each brood comes from the preceding brood, the extermination of any one brood during the year will usually result in practical freedom for one year. The simplest, and in many respects the most practicable, satisfactory and economical method of destroying the Hessian fly is to prevent the development of the fall brood. This is accomplished by sowing the winter wheat just as late as can be done safely. The Hessian flies will then be compelled to deposit their eggs on grass and other plants where they will ultimately perish, and when the wheat comes up it will be free from this pest, which will not occur in damaging numbers the following spring. The destruction of all volunteer wheat, and the burning over or plowing under of the stubble soon after harvest and before the adult flies have emerged, will be found an effectual check and preventive of noticeable damage for one year. The stubble should be turned under as deep as possible, and the field rolled so as to pack the earth and prevent the possible escape of the adults that may hatch under the ground. The Hessian fly is extremely subject to the attack of a number of parasitic insects, that greatly assist in holding the pest in check, and commonly reduce its numbers from fifty to ninety per cent. Hot and dry weather of long duration is also detrimental. The bulletin states that from the number of inquiries received it is evident that farmers in general do not understand the life history of the fly. It gets its name from the impression that it was introduced into this country by the Hessian soldiers in the time of the Revolution, probably in the flaxseed or pupa state in the straw used by the soldiers for bedding. Starting on Long Island in 1776, it spread at the rate of twenty miles a year until it occupied the wheat growing region of the Eastern part of the United States, afterwards over the whole wheat growing sections, and finally has reached California. The adult is winged, but they do not fly far unless aided by the wind. Ordinarily they deposit their eggs and perish in the immediate vicinity where they emerged if food plants are plentiful. The adult fly lives only long enough to deposit the eggs. The fly attacks wheat, barley and rye, but has not been known to infest oats. In the fall the eggs are deposited on the young plants and the larvæ or worm-like forms crawl down the leaf into the sheath, and down as far as the surface of the ground or lower. Their presence causes a swelling at the point of attack. The plant at first takes on a dark green color and then turns brown and finally yellow. If the attack is early the plant may fail to tiller and the entire plant will die. But if tillered only a part may be attacked, and the others may develop into healthy plants. In about three weeks the larvæ are full grown and it then shortens and shrinks and changes into the pupa or flaxseed state where it remains until spring and emerges as a mature fly to lay more eggs. The damage is, of course, done in the worm-like state. The late sowing is the simplest preventive, but as there is great seasonable variation the date will vary. While the wheat must be sown early enough to get strength for the winter it should not be sown until after a good fall frost. No wheat is exempt, but it is found that the most resistant sorts are Clawson, Underhill, Mediterranean, Red May and Red Cap.

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CONTENTS

AGRICULTURAL.—Manage Your Own Farm and Make it Pay, Too.—Drive More Horses and Make More.—Health Hints.—Storm Sash Sometimes All Right. 225
City vs. Farm.—Poor Farming in Pennsylvania. 226
QUERIES.—Dissolving Phosphate Rock and Feldspar.—Virginia Lands. 226
Extraordinary Ashes. — Pear for Name.—Crimson Clover and Alfalfa.—Fertilizing Strawberries.—Killing Sassafras Sprouts.—Improving Land in Florida. 227
LIVE STOCK AND DAIRY.—The Management of Beef Cattle. 228
Corn for Calves. 229
VETERINARY. — Worms.—Indigestion.—Lame Cow.—Diseased Tooth.—Rheumatism.—Asatoria. 229
GARDEN.—Moles and Mole Traps.—Talks on Timely Topics.—The Hand Truck.—Thinning Tomatoes.—Current Comments.—Growing Rhubarb at the South.—The Lutie Grape.—Notes from a Carolina Garden.—Points and Pickings. 230
HORTICULTURAL.—The Pink Dogwood.—Horse Chestnut for Shade.—Clematis Paniculata. — Horticultural Queries.—The Best Instructor.—Horticultural Notes. 231
POULTRY.—Seasonable Suggestions.—Does Poultry Keeping Pay?—Queries Answered.—Ailing Turkeys.—The Pip.—Roup and its Treatment.—Pointed Poultry Paragraphs. 231
EDITORIAL.—Rural School Houses.—Ginseng.—The Proper Use of Lime.—The Cotton Crop of Today. 232
CREAM OF THE BULLETINS. 232
COMMERCIAL. 233
HOME CIRCLE.—All in a Lifetime: Part 14.—Economy on the Farm.—Medical Hints. 234
In the Kitchen.—Among the Flowers.—Our Book Table.—Correspondence.—Youths' Parliament. 235
OUR EXPERIENCE POOL.—Topic No. 593.—Have You Tried Any of the New Irish Potatoes which Have Been Introduced? If so, Give Your Experience with Them as to Yield, Earliness and Quality. 236
FARM IMPLEMENT ANNEX.—Write for the Annex.—My Old Reliable Horse Hoe.—The Air-Tight Heater.—Bag Holder.—Harvesting Clover Seed. — Potato Planter. — Easily Made Maul.—Corn Marker.—That Hog and Sheep Fence.—Good Farm Trap.—Grinding Made Easy.—Mending Tinware.—Marker for Corn Ground.—Barb Wire Stretcher. 237
SHORT CUTS BY P. F. SUBS.—Handy Kitchen Table.—Bicycle Grindstone.—Handy Corn Knife.—Convenient Small Scale. — Planting and Cultivating Corn.—Save Ink and Money.—Ever Ready Wagon Jack.—Short Cut for Stiff Bonnets.—To Keep Bonnet from Sliding Over the Face.—How we Save Wagon Wheels.—Sliced Cucumbers. — Cleaning a Water Pipe or Sewer.—Second Crop Potatoes at the South.—To Mend Lace Curtains.—To Keep Chestnuts.—Care of Paint Brushes and Putty.—Home-Made Picture Frames.—Making Apple Butter. 238
POSTAL CARD CORRESPONDENCE. 240

Exchange and Profit

If our friends will look around them, over the farm and house, they will doubtless discover a good many things they do not want, but which other people do. Why not offer them for exchange through the Barter Column of the P. F.? If you want help, or want to hire out, or sell your farm, or exchange anything you don't want for something you do want, then an ad. in our

Barter Column

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THE FARMER CO.,
Market & 18th Sts., Philadelphia.

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

October 3, 1903.

It has been an eventful week for the cotton speculators, and great profits are reported for the bull clique and corresponding losses to the "shorts." The ruling price was advanced to 13c. per lb., as against 11.60 in previous quotations—too high for manufacturers to touch under existing contracts for made-up goods. The prices of cereals ruled firm, with occasional fluctuations, due to Western conditions and foreign demand, closing on about same average as previous week. Bradstreet's reports indicate an increase of nearly eight million bushels in the visible wheat supply. There was a light export demand for corn, and prices show a slight decline, with free selling in the West. There were ample offerings of oats, but light demand for car lots, and prices were barely steady. In live poultry the demand continued active for all grades, because of the Jewish holiday season, the market maintaining considerable strength, with higher prices. Supplies were closely sold up. There was a fair demand for ducks, the incoming shipments being of much better quality though restricted in quantity. Desirable lots of dressed poultry were sought for and quotations were higher for both fowls and chickens; market firm and stocks closely sold up each day. Heavy fowls ruled at 15c., spring broilers 16 to 18c., and fancy Illinois dry-picked, yellow-leg and heavy, 15 to 16c. Scalded Westerns hold steady at 13c.

While receipts of high-class butter are about average and the demand steady for the best grades, there is no visible sign of a break. With frost announced in many dairy sections and consequent limited grazing, it is expected that prices may take an upward turn within a few days. Many houses handling butter by the carload predict this and are helping along the high-price idea. They are ready for it, with hundreds of tons of fine stock in refrigerators, and large supplies contracted for from principal creameries. There was an advance of half a cent a pound for strictly choice butter and a ready outlet for all that was offered, prices being firmly maintained, with the odds in favor of makers and sellers. As usual, there was an abundance of defective butter offered, and the only way to get rid of it was by lower prices. Imitation creamery and ladle-packed were in fair request and steady, the offerings not being extensive. Prints of high grade were plentiful, yet some dealers carried surplus stocks of undergrades and were offering liberal concessions to close out.

Although the arrivals of eggs aggregate over twenty thousand crates a week, fine new-laid eggs are still very scarce, and the market held very firm at former quotations. Good offerings were promptly cleaned up. Refrigerators are emptying out not less than a thousand crates a day to meet the trade demands, and prices hold strong for best marks. Nearby first-class stock secures the top price of 25 to 28c., while refrigerated commands 21 cents.

Cheese advanced slightly, the increase this week being an average of ¼c. for full cream. Country markets are strong and city prices rule accordingly. Business, however, was restricted and the trade quiet.

Fruits and vegetables crowd the stalls and warehouses of wholesalers and retailers in opulent variety and quantity. Apples are in steady demand for fancy grades, and the market shows less of the drops and culls noted as so plentiful last week. Pears are in full supply. Peaches are quite scarce, and the dealers in fancy stock that has been stored for a month are about the only ones carrying much of an assortment. Some of this fruit is the finest seen in years. It is extra large with beautifully tinted skin and high flavor. There are few shipments arriving now, mainly from the West. Grapes have declined because the market is overstocked. Wine-makers and preserving firms are buying largely by the ton at cut rates. Cranberries are higher, with the approach of cooler weather. White and sweet potatoes hold their own, the receipts being moderate with fair outlet for good stock. Onions and cabbages were in moderate supply and firm; demand fair. The best N. Y. and Penna. white potatoes averaged 50c. a bushel; Jersey sweets, prime, 40c. a basket.

Hay, straw and feed hold steady at former quotations—$16.50 for No. 1 timothy in large bales; $18 for straight rye; $9.50 for wheat straw. At the Philadelphia hay market the average price per cwt. for new timothy was 90c.; bran in sacks or bulk, $20.

POINTS.—September strawberries retailed at 75c. a quart; green corn sells at 30c. a doz.; lima beans, 30 to 40c. per quart; new spinach, 25c., and string beans, 20c. half peck. Lemons are 15c., and California oranges 30 to 50c. a dozen. Tub butter retails at 25c. and fair prints 35c. per lb. Broiling chickens are held at 25c. and roasting at 22c. per lb. Scrapple has appeared again, with new sausage and other pork products and by-products. A tender, juicy sirloin steak is sold at 25c., loin of lamb 20c. and pork chops 18c. per lb.

WHEAT.—

No. 2, red, spot and Sept.	78¾	@	79
No. 2, Penna. and Del.	79¾	@	80
No. 3, red	73¾	@	74

CORN.—

No. 2, spot and Sept.	51	@	51½
No. 2, yellow, track	56½	@	57
No. 3	49	@	49½

OATS.—

No. 2, white natural, new	43		
No. 2, white clipped	43½	@	44

LIVE POULTRY.—

Fowls, hens, per lb.	16		
Roosters, per lb.	11	@	11½
Spring chickens, per lb.	16	@	16½
Spring ducks, per lb.	12		
Old ducks, per lb.	11	@	12

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	15		
Fowls, average, per lb.	14½		
Old roosters, per lb.	9		
Broilers, nearby	14	@	16
Illinois, d. p., heavy, per lb.	15½		
Western, d. p., fancy, per lb.	15		
Western, scalded, fancy, lb.	12	@	13

BUTTER.—

West. cream'y, 1sts to extra	21½		
Ladle packed	15½	@	16
Prints, nearby, 1sts to extra	22		
Prints, West., 1sts to extra	22		

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	25		
Western 1sts, free cases, L	23	@	23½
No. West., 1sts, free cases, L	23½	@	24
So. West., 1sts, free cases, L	21½	@	22
So. choice, free cases, L	20	@	20½
Refrigerator, firsts	20½	@	21

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c. –			
Choice and fancy	12½		
Fair to good	11½	@	12
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1 new	13	@	13½

GREEN FRUITS.—

Peaches, Mich., per bu. bas.	2.00	@	2.50
N. Y., per 2-bas. crate	1.25	@	2.00
Grapes—			
N. Y. Concord, 4-lb. bas.	10	@	11
N. Y. Concord, 8-bas. car.	60	@	75
N. Y. Worden, 4-lb. bas.	10	@	11
Delaware, 4-lb. bas.	14	@	15
Niagara, 4-lb. bas.	12	@	14
California Tokay, per lb.	6	@	8
Cantaloupes—			
Col. Rocky Ford, crate	1.50	@	2.00
Cranberries—			
Cape Cod, early Bl., bbl.	6.00	@	6.50
Cape Cod, early Bl., crate	2.00	@	2.25

APPLES AND PEARS.—

Apples—			
N. Y. fancy red, bbl.	2.75	@	3.50
Maiden Blush, per bbl.	2.50	@	3.00
20-ounce Pippin, per bbl.	2.00	@	2.50
Pears—			
N. Y. Bartlett, per bbl.	4.00	@	5.00
N.Y. Clapp's Favorite, bbl.	2.50	@	3.00
N. Y. Seckel, per bbl.	4.50	@	5.50
Other varieties, per bbl.	2.00	@	3.00

POTATOES.—

Jersey, prime, per bas.	30		
Sweets, Va., pr., yellow, bbl.	1.75	@	2.00
Sweets, Jersey, ⅝-bu. bas.	35	@	40

BEANS AND PEAS.—

Beans, marrows, H. P., bu.	2.95
Pea Beans, H. P., 1902, bu.	2.25
Imported marrows, per bu.	2.50
Imported pea beans, per bu.	2.10

COTTON.—

Cotton, per cwt.	10.50

FEED.—

Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00

HAY AND STRAW.—

Timothy, new, No. 1	16.00	@	16.50
Timothy, new, No. 2, small	14.50	@	15.00
Timothy, mixed, new	14.00		
Straw, new, straight rye	17.50	@	18.00
Oat	9.00	@	9.50
Wheat	9.00	@	9.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.

Extra steers	5¼	@	5½
Good steers	5	@	5⅛
Medium steers	4½	@	4¾
Common steers	4	@	4¼

Veal calves steady.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	4½	@	5½
Grassers	3	@	4½

Hogs active.

Fat hogs, Pa., Del. & Md.	6½	@	8¼
Fat hogs, Western	8¾	@	9

Sheep and lambs lower.

Sheep, extra	4¼	@	4½
Sheep, good	3¾	@	4
Sheep, medium	3	@	3½
Sheep, common	2	@	2¾
Lambs	4	@	6

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REVIEW OF NEW YORK MARKETS.

October 3, 1903.

Cotton and pig iron, staples in their line, have this week commanded the attention of everybody interested in finance and manufacturing—the former because it was abnormally high-priced; the latter because the price is so low it don't pay to make it at the present scale of wages. The middle of the week there was an advance in September cotton equal to more than 200 points, followed by a big drop to 10.50 per lb. on October 1st.

Operators in wheat found the conditions decidedly against an active market, and the summary for the week may pass into history as dull and tame. Slight foreign demand affects for the present the market on this side. December wheat runs a shade better than 83c. Corn was weak and prices had a tendency to droop, as the idea is getting firmly established that the reported heavy damage to the Western crop is principally talk. The outlook grows better daily. Receipts were very heavy, because of favorable weather for shipping and good roads for hauling from farms to railroad stations. December corn ruled at about 52c. Heavy receipts of oats by canal were pressed for immediate sale, and prices declined late in the week 1 cent a bushel. About 200,000 bushels natural and clipped white were sold Wednesday in transit at 42½c, down to 41c. delivered. The market was firm for hops, choice new State holding at 30 and 32c per pound. Hay and straw were firm at 90c. to $1 for best, per cwt.; supply good, with moderate demand.

In the butter trade the week was notable for heavy receipts, more than 30,000 packages coming in, making the market a little easier, but not affecting ruling prices.

Scarcity of extra-fine eggs caused slight increase in prices, nearby fancy being quoted at 27@28c. Live and dressed poultry maintained prices firmly, though there was dullness towards the end of the week. Average receipts of live poultry are about ten carloads daily. Fruits and vegetables were in full supply and there were only slight variations in quotations from last week. Citrus fruits are arriving in larger volume—oranges from California, Jamaica and Porto Rico, and lemons from Italy and California; 2,000 barrels Jamaica oranges were sold at auction on Wednesday, and 3 carloads from California. First pick of new crop Florida oranges will arrive this month. The crop is estimated at over 2,000,000 crates.

WHEAT.—

No. 2, red	81⅞
No. 1, No. Duluth, new, f.o.b.	88⅞

CORN.—

No. 2, yellow	56½
No. 2, white	54

OATS.—

No. 2	41½
Standard white	42¾
Track white	41½

HAY AND STRAW.—

Timothy, pr., l'rg bales, cwt.	90		
Timothy, No. 1	80	@	85
Timothy, No. 2	75	@	77½
Straw, long rye, per cwt.	75	@	1.00

BUTTER.—

Extra creamery	21½		
Extra factory	13½	@	15½
State dairy	15	@	20

CHEESE.—

State, f. c., small, fancy	12¼		
Good to prime	11	@	11¾
Large colored, fancy	12		
Large white, fancy	12¼		

EGGS.—

QUOTATIONS AT MARK.

State & Pa., fancy	27	@	28
State & Pa., seconds	21	@	24
Western extras	25		
Refrigerator	20½	@	21

LIVE POULTRY.—

Spring chickens, nearby, lb.	14½		
Southern, per lb.	14		
Fowls, per lb.	14½		
Roosters, per lb.	9		
Turkeys, per lb.	13		
Ducks, West., per pair	60	@	75

DRESSED POULTRY.—

Turkeys, spring, d. p., lb.	15	@	20
Scalded, per lb.	12	@	15
Old, mixed, per lb.	14	@	16
Broilers—			
Phila., fancy, large, lb.	20	@	21
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	14		
West., d. p., av. best, lb.	15		
Scalded, av. best, per lb.	14	@	15

APPLES AND PEARS.—

20-ounce Pippin, per bbl.	1.75	@	2.75
Crab, per bbl.	2.00	@	5.00
Fall Pippin, per bbl.	1.50	@	2.00
Greening, per bbl.	1.25	@	1.75
Baldwin, per bbl.	1.50	@	1.75
Pears—			
Kieffer, per bbl.	1.50	@	2.00
Clapp's Favorite, per bbl.	2.50	@	3.50
Bartlett, State, per bbl.	3.00	@	5.00
Seckel, per bbl.	3.00	@	4.50
Cranberries—			
Cape Cod, bbls.	6.00	@	6.50
Per crate	2.00	@	2.25
Pineapples—			
Fla., Red Spanish, crate	2.75	@	3.00
Havana, Red Span., crate	1.40	@	2.50
Grapes—			
Up-river, car., Delaware	65	@	1.00
Up-river, carrier, Niagara	75	@	1.00
Worden, per carrier	40	@	60
Concords, per carrier	50	@	70
Muskmelons—			
Col. Rocky Ford, f'cy, cr't	1.50	@	2.50
Peaches—			
Up-river, pony carrier	1.00	@	1.50
Jersey, best, per basket	50	@	1.25
Michigan, per bu.	1.75	@	2.00
Plums, Damson, 8-lb. basket	20	@	30
German prunes, 8-lb. basket	25	@	35
French prunes, 8-lb. basket	30	@	40
Quinces, per bbl.	2.25	@	3.00

VEGETABLES.—

Brussels sprouts, per qt.	6	@	8
Cabbage—			
Per 100 heads	2.50	@	3.75
Per crate or bbl.	60	@	80
Cucumbers—			
State & Western, per bbl.	2.00	@	2.50
Cucumber pickles, per 1,000	2.00	@	2.50
Celery, fancy, per doz.	40		
Good to choice, per doz.	15	@	20
Eggplants, Jersey, per bbl.	2.00	@	2.50
Green corn, per 100	75	@	1.75
Lettuce, Boston, per case	2.00	@	2.50
Lima beans, potato, per bag	2.00	@	3.00
Jersey, flat, per bag	1.00	@	1.25
String Beans—			
West. N. Y., green, bu.	50	@	1.00
L. I. and Jersey, bag	50	@	75
Norfolk, wax, basket	75	@	1.00
Peppers, Jersey, bbl.	75	@	1.00
Tomatoes—			
Choice Jersey, per box	25	@	60
Delaware, per bas.	15	@	25
Russia turnips, per bbl.	1.12	@	1.25
Onions—			
L. I. yellow, bbl.	1.50	@	2.25
White, per bag	50	@	1.25

POTATOES.—

Long Island, per bbl.	1.75	@	2.00
Jersey & Md., bbl.	1.62	@	1.87
Jersey sweets, per bbl.	2.00	@	2.50

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie Wis., to whom all communications relative to the department should be addressed.

All in a Lifetime.—Part 14.

VELMA CALDWELL MELVILLE.

(CONCLUDED.)

Patty Pearl awoke with a start. For a moment she lay in that dreamy, wondering condition one is apt to when first awaking, especially from a sleep of exhaustion; then came the sense of her trouble and unrest. Over her like a billow it rolled; it and the sickening recollection of the evening before. Involuntarily she put up her hands as if to shut out some dreadful picture. For the moment it seemed she would rather die than go on with this dreary, loveless existence; but a thought of her child roused her, and a few minutes later she slipped into the room, her heart warming at the thought of seeing her husband caring for their boy. But again she was doomed to disappointment, for only a sleepy domestic sat listlessly swinging the crib in which the child was sleeping off a mild narcotic. An exclamation of vexation escaped her lips. The girl roused and pointed toward a folded bit of paper on the table.

It was only a line, announcing the hour of his departure and giving directions about some remedy to be given, but it began: "My Own Wife," and the words brought a feeling of peace and comfort to her soul.

Of late she had felt sure that he did not care for her, and she had suffered all the pangs of a "woman scorned."

She wished he would come in now; if he had she would have gone to him and laid her aching head on his shoulder and rested upon the heart that once had beaten alone for her. But he did not get home until nearly ten o'clock, and by that time she was worried and wearied. Two patients awaited him, and before noon he was called again, so he had only a few minutes in which to attend to his own child, and there was little time or opportunity for peacemaking.

And so the current of their lives flowed on like that of many another husband and wife. The doctor devoted himself more and more to his business and his money getting; Pearl to her home life and her children. Winthrop grew well and strong again, but the little Ruth was a fragile child.

The Glens owned a handsome, well furnished house, and on occasions entertained or went out together. The doctor could never be anything for long but a courteous gentleman; genuine nobility and beauty of character being his heritage from his sweet lady mother. Mrs. Glen was older and less fair, perhaps, but still the same winsome Patty Peal. Sitting alone in her cozy sitting room one night—the children in bed and the doctor away—Mrs. Glen reviewed the past. She seemed to see and hear all the voices and scenes that had helped make up her life. Peace and prosperity had been hers; she had nothing to complain of, and yet—and yet there was ever that lack. All her wants had been supplied save the one—the heart hunger that she could sometimes cheat her own soul concerning, yet ever existed.

"He must love me, else he had not surrounded me with this beautiful home," she soliloquized.

"A mere matter of pride and duty," a voice seemed to reply mockingly.

She rarely thought of Jeff Greely now; or if she thought of him, it was as of some worn-out, forgotten toy of childhood. He and the Patty Pearl of those days were like two children she, Mrs. Glen, had once known.

Vaguely she wondered if her husband remembered those other days and other people. Sometimes she thought he hardly recognized the people of today, even; he was so busy, so preoccupied. She could not imagine him saying the loving, adoring words she had once listened to so coldly. Was she to blame? Had she erred, and that fatally? And in the years since, had she not let pride and selfishness rule?

Then the telephone bell rang sharply, in the hallway, and the chore boy went to answer it.

"I wonder who is sick now?" she said half aloud, rousing herself to look at the clock.

"Half-past ten already! Why how long I have been sitting here!"

"Yes," was what the boy said, and then "yes" again.

"What?"

"Blazes, I can't!" he rather panted than spoke.

Noiselessly she stepped into the hall.

"Call her and tell her yourself," said the boy, unconscious of her presence.

"I'd rather be hung!"

And then she caught the reply in a strange voice.

"No time for fooling. Just tell her he's hurt and they're bringing him."

With a hand made strong by terror, the doctor's wife flung the frightened boy aside, and, steadying her voice by an effort, asked:

"Is Dr. Glen hurt?"

"Who is this?" came the answer.

"His wife, and she wants to know the whole truth."

"Yes, madam; there was a runaway; horse frightened. It may not be bad, but they think best to bring him right home."

"All right." Mechanically she rang off.

Then with a strange calmness she called the servant and ordered a couch prepared—prepared right there in the room that a little while before had looked bright and beautiful. She had hot water ready and even thought to don a big white apron over her pretty pink wool house dress.

Then they came, and six men carried in the still form and laid it on the bed awaiting it.

"Is he dead?"

Her frozen lips somehow managed to frame the words.

"No, oh, no!" said Dr. Wayne, in a tone meant to be very cheerful and assuring. "So far I find no bruises; it may be only a faint from the shock."

The pale woman turned her gaze from the speaker's face to the still, white one on the couch and then a cry escaped her lips.

"Harry, Harry, my own, my love! Wake, darling, only wake and look on me once and hear me say I love you—love you dearer, far dearer than life itself. Harry, my husband!"

Once more the cry rang out:

"My love, my love!" Slowly the eyelids opened, and the glance, at first wandering and wondering, soon rested upon the face, transformed by the anguish and love light, that bent above him.

"Harry, my precious love, only live, live for me—your Pearl!"

He smiled—and such a smile. In all her life Patty Pearl could never forget it.

To the two thus strangely united in soul for the first time, there was much of Heaven in the moment; the culmination of a lifetime thus far. It mattered little that swoon followed swoon; that the man's vital powers were taxed to their utmost for many a day; that life waged what seemed at times would be a losing battle with death; there was always that concentrated love light in the wife's eyes that proved the lodestone that finally won him back to life and what was better than all—happiness

* * * * * * * *

People wondered, but never quite understood, the change in the Glens—but the secret of it all was, love had come into their lives—that love without which any married life is a barren waste.

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Economy on the Farm.

A. E. BILLS.

Every successful farmer will at once assure you that it was through economy he gained his success. Economy, in the strict sense of the word, does not necessarily mean that a person need be miserly, or what is termed stingy, but it means that one should be careful of what they possess, and in purchasing an article look around a little, and especially purchase things of durability. Economy should be practiced on the farm, both indoors and out. A true saying is, "A woman can throw more out with a spoon than a man can bring in on a shovel." We see some of the young wives of the present day, who are not trained at home in the first principles of housekeeping, undertake the duties of housewife. Should we be at all surprised at their extravagance? Perhaps these same girls' mothers have never known the meaning of the word economy themselves, and, of course, a mother cannot teach her daughters what she does not understand herself. A few instances of the lack of this generation will show examples of our young brides in real life. A young lady, up to the time of her marriage, had always been raised in wealth and luxury. She had never, at home, been made to feel any responsibility in regard to household duties, and grew up ignorant of everyday life around her. She at last fell in love with a storekeeper of favorable circumstances, but by no means a man of wealth. His wife, of course, was called upon to act now as chief cook, as a hired girl in her new home had to be dispensed with. She got along very well with her first meal; then her husband sent up some beefsteak to be cooked for breakfast. She searched every cook book for a recipe telling how long to cook steak, but all in vain. So she concluded to try it herself. She poured in a quantity of grease and put her meat into this, placing all on the stove. After the meat got to frying it commenced to spatter, and, of course, the longer it remained on the stove the worse it got. She tried to stop it, but poor, foolish thing, she did not know what to do; so, as a last resort, she grabbed the pan and threw the contents into the back yard.

So many just such cases as this we find in everyday life regardless of what they have always seen in their own homes. Perhaps a few notes in regard to how we economize on our farm would prove acceptable. I always endeavor to make my chickens pay for all our provisions, and in the spring can often save quite a sum for expenditures when we do not get as many eggs. An economical way to save on butter is to buy up a quantity, when the price is down, and then put it in salt brine; you will be surprised how long it will keep fresh. I have always made all my soft soap, and anyone who knows how much soap it takes on a farm, can compute the number of dollars saved in a year's time.

I always make over the best of our old clothes for the children, and they last nearly as long as new ones. I always use empty flour sacks for linings to calico dresses, or for dish towels. When my sheets become worn in the centre I rip them apart and turn them and they will wear as long again. A few words in regard to economy outside the house. All the dishwater, potato parings, etc., are saved for the pigs, and this, mixed with bran, makes an excellent feed. In the spring, when new potatoes come, we boil all our old ones and give them to the pigs and chickens. All the corn that is run through the corn sheller is again shelled by hand and fed to chickens. It is surprising how much corn can be gotten off of these cobs. All the corn stalks are cut up for fodder and this makes a fine feed for cows. Take it all in all, very little is wasted on our farm, either indoors or out. We take as much comfort in life as those who are always spending money lavishly, and always have a sufficiency of everything.

"Economy as your motto, my friend, will win in the end." Let more of us practice it in our daily walks of life.

Richland City, Wis.

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Medical Hints.

We want to relate an instance that recently came to our knowledge, hoping thereby to warn someone in the habit of carelessly handling drugs.

A gentleman and his wife came to Wisconsin from Oklahoma recently, for a visit with friends. She was taken ill in two or three days, and after a month of awful suffeing, died. Her physicians were puzzled. There seemed no clue and they could not denominate the disease. After her death, in conversation, her husband mentioned that she had taken—in fact, they both had—a dose of "blue mass" before leaving home. She had taken two pills—bought without a doctor's prescription, at a drug store—and he but one. Still no one could solve the mystery until a relative, visiting with a lady whom the young wife had called upon the very day before she was taken down, learned that on that day Anna had eaten heartily of unripe apples.

"I said to her," said she, "that I was afraid they would make her sick."

It was no trouble after that to figure the matter out. The calomel was still in her system; it created, in part, the unnatural craving for the acid in the apples, but the result was wholesale salivation. She threw up what seemed her entire stomach in pieces, and at last nearly all organs ceased to perform their functions and everything came by way of the mouth. Her body, arms and hands were covered with red splotches with purple centres. In fact, it was one of the most terrible deaths a person could die from disease, and all the result of tampering with a powerful and dangerous drug. Had she thoroughly worked it out of her system and refrained for some days from acids, all might have been well, but she did not know, and some physicians do not seem to. We were once given calomel and advised to eat oranges at the same time.

Another caution we once heard a good physician give, was: "Don't use calomel and morphine at the same time; there is danger of being salivated," he said.

But no one rises up to tell us how to avoid appendicitis. People laugh, call it a fad, tell yarns at the expense of the doctors, and what not; but the fact remains that the disease is appallingly common, and so stealthy in its approach that one has almost no time between its first warning note and the operating table. A number of cases have occurred right among our acquaintances of late. One lady—a woman who was the embodiment of life and health, to all appearance—went to Chicago, with a party of Fresh Air children, on Tuesday; was taken ill on Wednesday; was operated on for appendicitis on Thursday. It was an unusually bad case, and she now, just one week later, lies very low in the hospital there. She has the chance of "one in a thousand," they say.

And so it is; but we cannot but believe that the teachings of the New Hygiene, faithfully carried out, would prevent many cases of this dread disease. We have so often praised this work to H. C. readers that it is unnecessary to multiply words now. You can get it of The Farmer Co., for 50 cents.

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is only possible with the right kind of shaving soap. The soap must soften the beard readily and be healing and soothing to the face.

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GLEN ROCK WOOLEN MILLS,
Somerville, N. J.

In The Kitchen.

MRS. H. W. RUNYON.

It is not how many cans of fruit and vegetables that you can that counts, but how many that keep perfectly without mould. A can of fruit that has moulded is not fit to eat. Before preparing the fruit or vegetables, get the cans ready. Wash them in hot soapsuds, rinse in clear water and scrub lids with a scrubbing brush. Put on a wash boiler, place the cans in and fill with cold water, draw to the front of the stove, and let them come to a boil. Put the lids in a pan, cover with boiling water about five minutes, and dry off in the oven. The cans and lids are now thoroughly sterilized and ready for use. Soak the rubbers in soda water until ready to put on the jars. I only cook about two quarts at a time, in porcelain pan, as very much at a time gets too soft while attending to the first cans. When fruit has cooked enough, have in readiness a hot plate and a clean cloth that has been used for nothing else. Lift the cans out of the hot water and fill full. Put on rubbers, wiped dry with a small cloth.

If everything is put up boiling hot, and cans sterilized in this manner, the fruit will keep without mould and be as good as fresh. Cucumbers are nice canned. Prepare as for the table, peeled and sliced; put in the can cold and cover with vinegar, not too strong, and they are as nice as fresh ones almost. When I find an imperfect jar I mark it, and set aside for preserves or jelly. Delicious fruit butters can be made any time of the year in the oven, and will keep as long as you want them to. Run the cooked fruit through a sieve; fill gallon stone crocks with the fruit and bake in the oven. When a crust forms, stir down with a wooden paddle. When two-thirds cooked down, put in one quart of sugar and let cook down one-half. Plums, peaches and apples can all be cooked, juice drained off and used for jelly, pulp used for butter, and none of it wasted. Put away in any kind of glasses or stoneware with melted paraffine poured on top, they will not have to be sealed, only a cloth or paper tied over. In canning tomatoes leave them whole, and cook about ten minutes. A long-handled dipper and fruit funnel for filling cans are great helps in the work.

Catlettsburg, Ky.

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Among the Flowers.

ROSIE L. M. TULL.

Petunias are very showy flowers on the lawn or in the garden. They also look pretty when blooming in a pot in the house during the days when the bleak winds of winter can be felt as well as heard. Being quite hardy, they will thrive where the more tender house plants would droop their delicate heads, thus bringing a ray of real flowering beauty to those who want flowers but cannot, on account of a cold house, have the delicate house plants. The double ones are prettier than the single ones—just as the double roses of the garden outrival their wild sisters of the field, but if the double varieties cannot be obtained easily, try potting some of the single ones for winter and watch the results. They are far prettier than no flowers. The double ones are not so easily obtained from seed as are the single ones. Last year we purchased a packet of double petunia seed, but only one of the many plants produced double blossoms. That one was dark red with a few of the petals tipped with white. The most vigilant watch detected no seed. Some of the single ones may have been fertilized by the double ones, but the chance to obtain double flowering plants therefrom was too small to depend entirely upon. So limbs were cut from the plant, the first of September, and planted in cans of soil, putting one or two joints below the surface, with one or two large leaves and the bud above. Then they were watered by the bottom method and placed on the north side of the house until well started. They grew nicely and received but little more attention. One of the plants was frosted two or three times during the winter; once almost to the ground, but still when spring came there were beautiful double, sweet-scented flowers which soon increased in number when planted in the open ground, and have remained in bloom since. The double plants may be obtained from florists at small cost, or from seed, but do not expect too many double ones from a packet of seed. Seed may be planted in early spring in good garden soil. Cover very lightly, as they are so very small. Press the soil down firmly with the hand so it will retain enough moisture to germinate the seed. Some time is required for the seed to germinate. The self-sown ones of the autumn produce tiny plants, as soon as the weather is favorable, which can be transplanted to where wanted when large enough, and will bloom much earlier than spring-sown seed. Single petunias are very insignificant when compared with the lovelier flowers, but they, too, have a place.

Walker, Mo.

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Our Book Table.

V. C. M.

"The Pit," by the late Frank Norris, is a most uncommon story in many respects. It contains a deal of information for many of us to whom the words "Board or Trade" and "The Pit" have meant anything or nothing. We know a man who lost all his savings and part of his parents' money gambling in wheat, and we have blamed him most severely. Now we do not quite so much, because we can dimly understand how a man might be drawn into it and then how tightly the chain would wind about him. The fascination of it all is apparent even to the feminine reader. The story is well told. The style and language of the author are irreproachable; the book is an encyclopedia of information on certain subjects.

Mr. Norris had the faculty of making one see his characters just as he saw them.

Curtis Jadwin, the genial, broad-souled man of affairs, wins us as he won Laura Dearborn, by the force of his will and the greatness of his love. The artist, loyal Landry Court, practical yet sentimental Page, Aunt Wess, the Cresslers and the heroine, Laura herself, all seem to us like people we have actually seen and known. The little trick that the author had of describing trivial scenes makes it all so real.

Here, for instance; Mrs. Cressler and Laura having a tete-a-tete before retiring:

"Between the two women the conversation began slowly, with detached phrases and observations that did not call necessarily for answers—mere beginnings that they did not care to follow up.

"'They tell me,' said Mrs. Cressler, 'that that Gretry girl smokes ten cigarettes every night before she goes to bed. You know the Gretrys—they were at the opera the other night.'

"Laura permitted herself an indefinite murmur of interest. Her head to one side, she drew the brush in slow, deliberate movements downward underneath the long, thick strands of her hair. Mrs. Cressler watched her attentively.

"'Why don't you wear your hair that new way, Laura,' she remarked, 'further down on your neck? I see everyone is doing it now.'

"The house was very still. Outside the double windows they could hear the faint murmuring click of the frozen snow. A radiator in the hallway clanked and strangled for a moment, then fell quiet again.

"'What a pretty room this is,' said Laura. 'I think I'll have to do our guest room something like this—a sort of white and gold effect. My hair? Oh, I don't know. Wearing it low that way makes it catch so on the hooks of your collar, and, besides, I was afraid it would make my head look flat.'"

The career of Curtis Jadwin is a typical one. In the early part of the tale these words ocur:

"He had an office in the Rookery, and perhaps being so close to the Board of Trade Building, had given him a taste for trying a little deal in wheat now and then. As a rule he deplored speculation."

It took time and the pen of a ready writer to follow the man in his wonderfully triumphant march to that terrible, fatal day when the words echoed through the pit:

"Beaten; beaten at last, the Great Bull! Smashed! The great corner smashed! Jadwin busted!

Every man and boy ought to read this book and learn from it the perils of gambling of any kind. Through it all runs a charming love story, and there is love in it, too—the kind that saves and sanctifies even at the mouth of hell. It is a book of the times, just the thing for a present, if you are looking for one for your husband, son or sweetheart. No public library can afford to be without it.

Correspondence.

Mrs. M. M. Wheeler, Hunt, Ark., writes: It is with much pleasure I read the columns of the H. C. week after week. I do not know how I would get along without the P. F. There are so many useful hints to be found in it, and I love so well to read the letters in the H. C. They seem like letters from so many friends. The prize articles of August are very interesting. What has become of Mrs. W. J. Wright? Where are you keeping yourself of late? Write again, please; I like your letters; there is so much common sense in them. I believe in work and do what I can and read a great deal also. I have two small boys and try to teach them the best I can to do little things, and be good children. Very small children can save the tired housekeeper many steps when they are taught to help about the house, garden and yard. I will tell the sisters how I spend the long winter evenings. I save all the scraps in cutting and making garments for the family, such as calico and ginghams, and cut and piece them in pretty quilts. I have some quilts that are very nice and pretty.

Clara E. Ames, Hudson, Mich., writes: I wonder if all the dear ones of the H. C. know that it is the spirit with which we undertake the duties and cares of life, on the farm anyway, that makes all the difference. In the farm house it is our loved ones for whom we toil, and the kind word and loving look are our just due. Do we not always get them? Of course there are many things that help us, and a system of work that can stand interruption seems to be one of the essentials. We all need something of the sublime when things go "crosswise," and there is need of all our strength to cope with the duties of life without giving any of its worries and frettings. Take as good care of the health as possible. Simplify the work and see if you have not strength for the necessities of life, and some also for its beauties in whatever form is your special delight. As the mother of seven children I know whereof I speak.

Miss Ellen Peters, Fairburn, Ga., writes: *Dear Mrs. Melville*: I am an interested reader of all your writings in the P. F. As we are farmers we need to be practical ones. Am grateful to the H. C. band for the information concerning hardy vines which I requested. We have rural free delivery in this section and are delighted to receive our mail each day, instead of only once or twice a week, as formerly. Now I think we read our papers more thoroughly and get more satisfaction and benefit out of them. Yesterday it rained a fine shower, the first wet to lay dust in the roads for over a month. Glad to see rain now, though late for cotton to be revived, as it has suffered greatly through drought, especially the top crop of squares. Sweet potatoes and sugar cane thrive after a copious shower, and will grow on and on until late frost, then both must be protected from chilly winds of the wintry weather. Well, Mrs. Melville has written us some good stories; wish some of you sisters would try and write some and help her get in more of them, as we enjoy reading them immensely. Can we have more pictures of fashions occasionally? Living away out in the country as I do, fashion sheets or plates are very much appreciated. I would like to see a nice jacket pattern pictured. Does Mrs Melville send out patterns now? Lest this long piece of mine be hard to survive I bid all a cheery good-bye.

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Youths' Parliament.

Walter and Willie Wheeler, Hunt, Ark., write: Here come two little boys of 7 and 9 years. We live on the farm and go to school everyday, and to Sunday School every Sunday. We like to go to school very much; our teacher's name is Mr. George Hargraves. We like him very much. Our papa is dead, and we live with our grandparents. They are very good to us and we love them very dearly. Mamma takes the P. F. and likes it very much. If this escapes the waste basket we will come again, sometime.

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The Kalamazoo Plan.—We desire to call the special attention of every reader of the P. F. to the offer in this issue by the Kalamazoo Stove Company of Kalamazoo, Michigan, manufacturers of stoves and ranges, selling direct from the factory to the user at factory prices. Their proposition in a nutshell is this: They guarantee to save you from 25 to 40 per cent. in price. They guarantee that you cannot get a better stove or range anywhere at any price. They prepay the freight. They will send you a stove or range on 30 days' trial and then leave it with you 360 days on approval. If you are not perfectly satisfied, return the stove, at their expense and get your money back. The Kalamazoo line includes ranges, oak heaters, wood burners, etc., in a variety of sizes. A special feature of their cook stoves and ranges is the Kalamazoo oven thermometer, which shows the temperature of the oven without opening the door, enabling the cook to keep perfect control of her baking and roasting at all times. If you have a house to keep warm or a meal to cook, it will pay you, and pay you well, to send to the Kalamazoo Stove Company, Kalamazoo, Mich., for Catalogue No. 104 and special prices (freight prepaid) on their famous line of stoves and ranges. They will treat you right.

Our "Index" describes *all* lamps and their *proper* chimneys. With it you can always order the right size and shape of chimney for any lamp. FREE. MACBETH, Pittsburg, Pa.

Acme Harrows Indestructible. Cheapest because the best. Send for cat.
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The Old Fashioned Paint that never chalked, cracked or peeled was made from pure White Lead mixed with pure Linseed Oil.
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GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers.
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Insist on getting The Buckskin Brand made of real rubber.
MONARCH RUBBER COMPANY,
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THE "1900" FAMILY WASHER FREE.

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to any one answering this advertisement, without deposit or advance payment of any kind, freight paid, on 30 days' trial. The 1900 Ball-Bearing Washer is unquestionably the greatest labor-saving machine ever invented for family use. Entirely new principle. It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery. It revolves on bicycle ball-bearings, making it by far the easiest running washer on the market. No strength required; a child can operate it.

No more stooping, rubbing, boiling of clothes. Hot water and soap all that is needed. It will wash large quantities of clothes (no matter how soiled) perfectly clean in 6 minutes. Impossible to injure the most delicate fabrics.

An Enthusiastic Admirer.

Chicago, Ill., March 22, 1903.

The "1900" Washer Co., Binghamton, N. Y.

The washer I bought from you nearly 2 years ago is in the best condition yet, and I believe it always will be; nothing has been worn out or broken off; every part is as good as it was when I bought it. Neither have I noticed that my clothes through the continuous use of the washer have been worn out. Your washer don't rub the clothes to pieces or wear them out. It is really the best washing machine on the market, and if I could help it there would not be a housewife in the United States without one of your "1900" ball-bearing washing machines. I heartily recommend it to every lady, for it will save her a lot of hard work.

Mrs. A. H. CENTNER, 636 Diversey Boulevard.

Write at once for catalogue and full particulars to
"1900" WASHER CO.,
23 A. STATE ST., BINGHAMTON, N. Y.
References: First National Bank, Binghamton, N. Y.

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The Penn Chemical Works, Philadelphia, U.S.A

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Topic No. 595, Oct. 24.—*Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?*

Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 593.—Have You Tried Any of the New Irish Potatoes which Have Been Introduced? If so, Give Your Experience with Them as to Yield, Earliness and Quality.

Scovel Brothers, Hot Springs, S. Dakota.—Two years ago we bought eight pounds of the Eureka Extra Early potato from Wm. Henry Maule. We spread them on the greenhouse benches to green the sprouts, but lost three pounds by the ants eating the tubers. Cut the remainder to one eye and planted on our best land, and made 200 pounds, all sizes. Next year planted these in rows 3 feet apart and 1 foot in the row, but neglected to work the land enough before planting, or to plant deep enough. Hence the yield was small. We saved about 600 pounds for seed, besides 50 pounds that were selected from hills that made over five good-sized potatoes. This year, with better care, we have had an excellent yield. We prepared the land thoroughly, and as it had been heavily manured for sweet corn the year before, we had it in good condition by planting time. Planted April 20th in furrows 4 inches deep and 3 feet apart, with potatoes a foot apart in the row, cut to one eye. Covered by repeated harrowings, and kept the harrow going after the first plants were up. May 17th, coming slowly on account of the cold spring. When we could see the rows we cultivated deeply, and then used the Hallock Weeder, after which the work was done with the Planet Jr. 12-tooth cultivator once a week and after every shower until July 18th, when we irrigated the crop. Since then but two cultivations have been given. We sold the first potatoes July 11th, having had enough for home use a week before this time. We sold potatoes the previous year a week earlier, but the cold and wet of the past spring made us later this year. Ours were practically the first potatoes in the market, except Southern ones, and the first sold for 4 cents a pound. The price gradually dropped to one cent. We have sold on an average 200 pounds a day for five days each week, and have been able to get from a quarter to a half cent a pound more for them than the ordinary potatoes, because of the quality of the Eureka. While digging, we have weighed the potatoes to get the yield, and from three trials we have gotten an average yield of 325 bushels per acre. This we think quite good, taking into consideration the fact that I came from a clerkship in Chicago just four years ago the past spring, a green city boy, while my brother left a job of sheep herding in this county a year previous, and had thus about one year's experience in market gardening. He runs the wagon while I run the garden. Our place had been worked for ten years previous by renters, who worked the soil for products, but did not spoil the roads hauling manure. We have hauled manure, plowed under rye, and made a change of crops, and are beginning to see light, thanks to the P. F. and its practical writers.

F. A. Cowell, Lakebay, Wash.—I have tried Maule's Commercial, Burpee's Extra Early, Salzer's Sunlight, Hammond's Admiral Dewey and Wonderful. My ground was shot clay, and being new land, not very good for any crops but fruit. Commercial just about returned the seed and the quality was poor. Burpee's Extra Early was not much better. Sunlight, much boomed by Salzer, is probably the poorest excuse for a potato on earth. Instead of being a 35-day variety, it requires the whole season to grow as large as a hen's egg. But the quality is good. Admiral Dewey proved to be a wonder, and all that is claimed for it as to earliness, yield and quality. It is as mealy as the old Peachblow of our "daddies." Wonderful is a late potato, not so productive with me as the Dewey, but this may be due to our droughty summers. It is still very productive and in quality nearly as good as Dewey.

S. W. Taylor, Buel, Ky.—I tried the Eureka potato, advertised as the earliest, alongside of Bliss's Red Triumph, both planted the same day. Both matured the same time, Triumph yielding double what the Eureka did. Dug them in June and sprouted them according to Massey's plan, and planted again the last of July for the second crop for seed. Frost bit vines down, but Triumph made nice, smooth, medium-sized potatoes, while Eureka made none at all. This year tried Freeman, Maule's Early Thoroughbred, Eureka and a Northern Rose sold here. Experimented with them all with one-eye pieces, with one two-eye pieces and two two-eye pieces planted from 12 to 25 inches apart in the rows, which were three feet apart. Triumph, from seed from my second crop, and Eureka were the first to mature. Northern seed, or Rose, the latest. Triumph doubled Eureka in yield. Thoroughbred and Northern Rose about the same yield, with Freeman a little ahead of Eureka. The one-eye pieces 12 to 14 inches apart, one in the hill, made decidedly the best potatoes. My experimental patch made at rate of 260 bushels per acre.

J. B. Johnston, New Wilmington, Pa.—For years I found the Rural New Yorker No. 2 most profitable, growing to a good size and few small ones. Changing seed as needed, I tried the Sir Walter Raleigh. Quality much better than the Rural New Yorker, but yield smaller except on very strong land. Then I got Dewey and Wonderful, and am still planting these side by side. Yield in favor of Dewey. With any of these I have made from 160 to 180 bushels per acre, with no hand labor but digging. Harrowed two days after planting, and then harrowed with a straight or slant-tooth harrow twice a week until they were four inches high. Then cultivated once a week until in full bloom, and no hoeing was needed.

J. F. Williams, Findlay, Ill. — I planted Early Ohio, Bliss's Triumph and Green Bay in the same lot, the same day and in the same way, using one-eye pieces only. June 20th began digging, and Green Bay were far ahead of Bliss in size and nearly equal to the Ohio, while they far excelled the Ohio in smoothness, the latter being more or less crooked and run to protuberances. Green Bays were entirely free from scab, nearly spherical and with no protuberances at all. Soil was rich town lot prairie, known here as the later drift. All the seed was from J. M. Smith's Sons, Green Bay, Wis. There was little scab on any, but the Ohios were worst. The Ohio made the best yield at maturity, and were much more easily dug, as they could all be thrown out at one forkful, while the others were so deep that several efforts were required to clear the hill. People say that no potatoes grown here are fit to eat, but we found all these palatable and of equal merit. [This paper, being written on dark paper with a pale pencil, should have been thrown out according to our rule, but as it is from a new contributor we pass it this time, hoping that in the future he can find some white paper and good ink.—ED.]

E. C. Pittman, Poindexter, Ark.—I have tried the following potatoes at intervals, never planting them the same season: Northern Beauty made 91 bushels per acre, with 8 bushels of culls, in 101 days from planting. Crown Jewels made 102 bushels per acre, with 12 bushels of culls, in 191 days. Wood's Earliest made 96 bushels per acre, with 3 bushels of culls, in 98 days from planting. The experiments were not made on an entire acre, but on a small plat, which was measured and the estimate made from it. They were cultivated level.

E. E. Lawrence, Spafford, N. Y.—We have tried several varieties of the new potatoes this season and last. Early Pride is a strong grower, very productive and of splendid quality. While not ripening as early as some, it is ready for use as soon as large enough, and cooks very quickly and mealy—a red potato, valuable for home use. Uncle Sam, a late potato, very productive, of fine quality, and better than most late potatoes, but rots badly. White Mountain is a late potato, productive and the roundest potato I ever raised. Very few small ones. Quality very fine. Good for market.

Eveline S. Barker, R 2, Torrington, Conn.—I have for three years raised the Ensign Bagley potatoes and have been well pleased with them. Though my soil is not early, I sold to some of my neighbors last year before theirs were ready for use. The potatoes are smooth, of good quality, early, and, with me, yielded very well for an early potato. This year they were ready for market while the retail price was 40 cents a peck. I am trying the Nome this year, but have dug only a part of them yet. They are of good size, but all my potatoes are rotting some.

A. J. Umholtz, Tum, Ark.—I have tried the Early Michigan, Maule's Early Thoroughbred and Dewey potatoes, each for three years. The first crop of each of them outyielded Bliss's Triumph, either the red or white, with me. But in this locality we must have an early potato, that will make a sure second crop, as the first crop will not do for seed for the next spring, and we plant in the spring the potatoes for the second crop, or potatoes from the North. The Early Michigan is as early as Bliss's Triumph and of good quality. But it will make but a very small second crop, not enough to pay for the trouble. Maule's Early Thoroughbred is not quite as early as the Bliss, and will produce but about one-half as much of a second crop as the Bliss will. But the Dewey is about as early as the Bliss, a much better cropper for first crop, better in quality. In fact, I doubt if there is any potato of better quality. For second crop it is as sure, and yields about as well as Bliss's Triumph. I have discarded Early Michigan and Thoroughbred, and take the Dewey as the main standby for an early crop, with Triumph as second best. For second crop I plant most of the Triumph as they sell better for seed, the Dewey not being so well known.

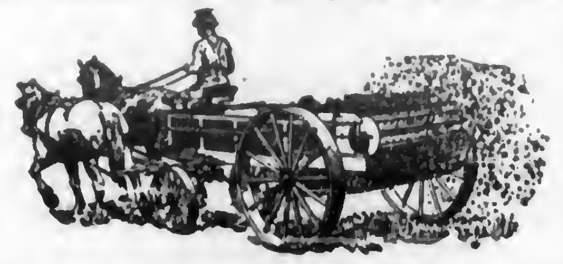
L. H. Norris, West Rush, N. Y.—For a main crop I stick to some standard variety, such as Rural New Yorker No. 2, Carman No. 2 or 3 and Sir Walter Raleigh, as these give me from 125 to 250 bushels per acre, according to season. Some years ago I tried the Troy Seedling. It was a fine yielder, but worthless for eating. The McCormick was like it. The New Hampshire turned out to be just like Carman No. 3. The Early New Zealand was like the Early Vermont, which is one of the best early potatoes. Though I often try a few new potatoes I still stick to the standard sorts.

William C. Aiken, 2807 Hoover St., Los Angeles, Cal.—Among progressive farmers it is generally observed that in suitable localities where potatoes are a success, it pays to plant some of the newer varieties for their own seed and to sell among the neighbors. My plan has been to select several of the recent introductions for trial every season. A change in location interfered with this year's crop, but the season of 1902 gave the following results: Early Thoroughbred somewhat similar to the old Early Rose, but ten days earlier; on good soil averaged larger in size and more productive, yielded at the rate of 162 bushels to the acre; quality the best, floury and delicate flavor. Maule's Great Divide for main crop variety was a great success, and proved very desirable, with a strong growth of vines; yielded at the rate of over 200 bushels per acre; very fine keeper; tubers handsome, thick, oblong and round, with shallow eyes; white skin; flesh a pure white, dry and nutty flavor; few "seconds." Sold all surplus seed at the rate of $6 per bu.

I. G. Miles, Berwindale, Pa.—I have tried the Red River Early Ohio. This is my second year with them, and I find them a poor cropper and small, but are early and of fine quality. They yielded this year about 100 bushels per acre of smooth potatoes.

◆

The Improved Kemp Spreader.—The 1903 round of State and county fairs, in addition to showing improvements in stock and the products of the soil, will have served to bring a new delegation of farmers into closer touch with some of the more modern pieces of machinery that are so well calculated to serve their interests. The thought is suggested by the announcement that the Improved Kemp, the pioneer in the manure spreader field, was to be shown in operation as usual at a leading State fair. Whoever of our readers has had the good fortune to see the Kemp in operation must have been impressed by its work. It is not the first time we have had a good word to say in its favor. But a machine which occupies so important a field in farm economy, and does it so acceptably, cannot be too frequently brought up for public notice. No apology is due, therefore, for again producing the illustration herewith. Its province is keeping up the fertility of the land by making the most of the fertilizers always at hand. It furnishes the one economical way of using the barnyard manures. It brings about their timely distribution before their valuable elements have leached and washed away. The manures are so spread that every particle of fertilizing content shall be absorbed and appropriated by the hungry soil. Some may have misgivings as to the ability of a spreader to work in any but well rotted and dry manures. If this were true a large part of its value would indeed be lost. But the mind should be disabused of any such thought. This Kemp Spreader is equally at home in the refractory, lumpy, strawy corn stalk manure and in the commercial fertilizers. When loaded, the driver has perfect control of everything from his seat, spreading thick or thin as the soil may require, and only discontinuing when he has returned to the yard for reloading. We can make but the briefest mention here. It will have served a good purpose if it leads a single farmer who is yet without a manure spreader to procure the Kemp Catalogue and make study of its usefulness in connection with his own land. It will be found advertised in another column over the signature of the Kemp & Burpee Mfg. Company, original manufacturers, of Syracuse, N. Y. Be sure to mention the P. F. when writing this firm.



FITS

If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.

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and send 4 Buggy Wheels, Steel Tire on, . $7.25
With Rubber Tires, $15.00. I mfg. wheels ⅞ to 4 in. tread. Top Buggies, $28.75; Harness, $3.60. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W. F. BOOB, Cincinnati, O.

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HAND FODDER CUTTER
IT'S A GOOD ONE AND THE PRICE IS LOW
BUY IT
Should you want a larger power ensilage and fodder cutter or corn husker, sheller, horse power, feed grinder, wood saw, windmill, farm truck, seeder, etc., send at once for our free Catalogue.
Appleton Manufacturing Co. 25 Fargo St., Batavia, Ill., U.S.A.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Clover Seed Wanted. Send sample and price. CLYMER FLETCHER, Clearville, Pa.

For Sale or Exchange. Fine single comb brown leghorn cockerels. My stock is among the best in the State. A. L. CARY, Lewis, Ohio.

California fruit ranch for sale. 20 acres rich deep soil; 16 kinds fruits and nuts; 8-room house; large barn; $5,000. ERNEST COLE, Corning, Calif.

Sale or Offers. Oxford-down ram lamb; big, strong and healthy; bred from imported stock. Exchange for shot gun. H. N. MUSSER, Route 5, Wooster, Ohio.

For Sale Cheap. Power fodder cutter in good condition. Cuts ⅛ to 3 in. long. Also horse power for one or two horses. CHAS. HUNNICUTT, Wilmington, O.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Wanted to Rent.—Small farm, with view of buying, in Southern New England preferably, with necessary buildings and near good market. Give full particulars. Address, FARMER, Winsted, Conn.

For Sale or Exchange. One thousand Single Comb White Leghorns, Wyckoff & Blanchard strain. Beautiful, early hatched cockerels and pullets, strictly thoroughbred. C. N. REYNOLDS, Canton, Pa.

One half blood and one seven-eighths blood June, 1903, heifer calves. Will exchange for full blood Dorset, Lincoln or Shropshire ewes, Durham bull calf or Poland China spring pigs from registered sire and dam. WILL W. FISHER, Watervliet, Mich.

For Sale. Two ¼-sections of No. 1 wheat land, 7 miles from R. R. 140 acres ready to sow. One ¼ improved. All under fence. 60 acres in virgin sod. All stock, implements, household goods, tools, etc., ready for a person to go to work. For particulars write I. E. LOBAUGH, Delight, Wash.

For Sale. 320 acres. An ideal all-purpose farm; young orchard, forest trees; 40 acres alfalfa land, 5 acres in alfalfa; frame house, stone basement; plenty of good spring water; good markets; nine miles from Atchison, Topeka & Santa Fe R. R. Price, $7.50 per acre. For further particulars, address J. B. OLDHAM, Spearville, Ford Co., Kansas.

262½ acre dairy-truck farm, 40 miles south of Atlanta, Ga., on Central R. R. Station and P. O. on place. 2½ miles from Griffin; 5 large cotton mills; good market; 80 acres in high state of cultivation. Balance in good pasture; all lays well. Good spring water; 8-room house; 2 barns; 200 apple trees. $30 per acre. A. R. TAYLOR, Vineyard, Ga.

Farm for Sale. 50 acres on east side beautiful lake, one mile wide—on State road. Daily rural mail; telephone. Can have artesian well for less than wind mill. Raises big crops red clover. Best part peach belt; will raise $2,000 to $4,000 peaches each year. Two miles from Lake Michigan. Daily boat line and R. R. 8 miles north, also 4 miles south. Price, $35.00 per acre, stumps out. Has 4-stall stable; no house. Easy terms. S. E. RUSSELL, Pentwater, Michigan.

No Painting Required
on Arrow Brand Asphalt Ready Roofing. Can be easily laid, as the work only consists of nailing and cementing the joints. Samples, prices and booklet giving instructions for laying, sent free, postpaid.
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ROSS FEED CUTTERS
will save you money. Send for our Free Booklet No. 43 and learn how you can double the value of your corn crop.
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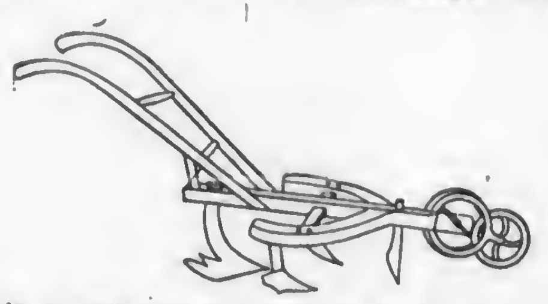
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Write for the Annex.—During the past month or two we have not received nearly as many Annex letters as we have needed to make the department really interesting and helpful. During the heated term we did not expect that the department would be kept very full, but now that cooler weather and longer evenings are with us we would like very much to see this work pick up, and we depend upon P. F. subscribers to help with it. We desire our new subscribers, as well as our old ones, to take a hand in this matter. Write about the implements and machinery of the farm, and remember that every letter published is paid for. Send 'em along.—ED.

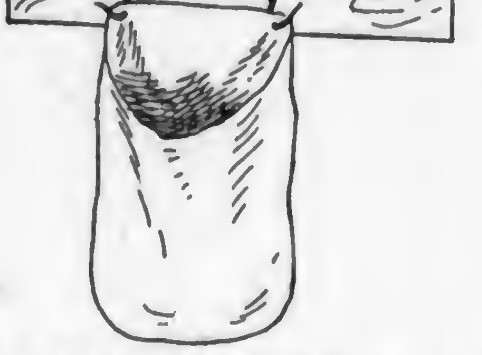
My Old Reliable Horse Hoe. — Arranged like the illustration herewith given is a hoe that I have used for years for cultivating Indian corn, broom corn, sorghum, potatoes, and in fact all the root crops that I raise on my farm. The front tooth operates as a coulter to dig up the soil and gives steadiness to the implement when in use. The two side plows may be changed from side to side for the purpose of turning the soil toward or away from the rows of plants. The broad rear tooth cuts up the grass and weeds most effectually and pulverizes the surface of the soil. The prongs in the rear sift the dirt and weeds, leaving the surface of the ground level and the grass and weeds exposed to the burning sun where they soon wilt and die.



The Air-Tight Heater.—I take it that nearly everyone burning wood now uses the improved air-tight steel heaters, although there may be some who do not. Unless very fond of chopping wood, do not be without one another winter. As a lavor-saving device I consider it unequaled. Last winter here in Kentucky was an unusually hard one. Put up our air-tight heater the middle of October and fire was not out day or night until March 12th, and had only burned a little over three cords of wood. Used black walnut tops to get them out of the way; it will burn anything, is safer, cleaner and gives a more regular heat than any other kind of stove. Has an iron ring attachment by means of which the good wife can heat the tea kettle, boil meat or what not. It does away with kindling and that miserable job of starting a fire on a cold morning. At night put in two ordinary sized sticks, close the drafts and the next morning you will have a warm room; open the drafts and you will have a roaring hot fire. Flowers bloomed in our window all that zero weather and nothing froze over night. Our house is an ordinary frame, and rooms none the tightest.

Bardstown, Ky. A. L. ROBINSON.

Bag Holder.—I have a bag holder which makes bag holding easy, and of which I send a sketch. Any man can make it and put it up in about the same time that it would take to get the wife out to hold the bags. To make it take a piece of 1-inch board 2 feet long and 4 inches wide. Two wire nails are driven through from one side and crooked with a hammer to make a hook. The hooks are 12 inches apart. It can be fastened up anywhere by simply driving two nails through it.

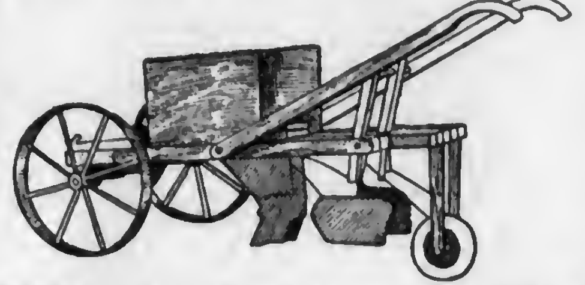


Richland City, Wis. A. E. BILLS.

Harvesting Clover Seed.—In the last ten years much of the clover seed grown in this vicinity has been cut with the grain binder. Some of it has been bound up like grain and set up in long shocks and hulled out of the shock. It can be gathered and hulled rapidly in this way, and with practically no loss of seed. Others have used attachments on their binders which hold the straw until let off by the driver. It can thus be left in windrows from which it is very convenient to gather it for stacking or hulling. Anyone having a heavy or tall stand of clover for seed will be pleased to see how nicely a good binder will take it up and bind it, even if it is lodged some. Mammoth clover lodges so that it pays to mow it off in the spring when 8 or 10 inches high, leaving it on the ground for a mulch, through which it will grow and produce seed without lodging. It can then be cut with mower or binder and harvested with less labor and more satisfactory results than if left to grow up and lodge. Let those who have a tall stand of clover for seed try cutting it with the binder and report results. GEO. W. WEBB.

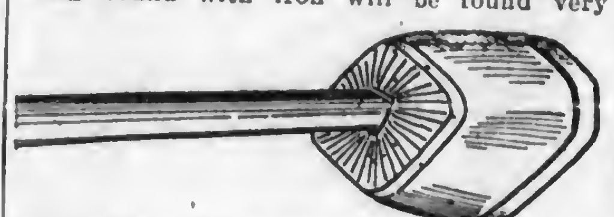
Arcadia, Wis.

Potato Planter. — The illustration accompanying this article represents a potato planter which I have used for several years, and it has given good satisfaction. It can be drawn by one or two horses and is guided by one man by means of handles similar to those of a plow. The machine is supported on two drive wheels similar to the drive wheels of a mowing machine. The driving wheels work the cutting and dropping apparatus. In the bottom of the hopper which contains the potatoes to be planted there is a sink on either side of a slide which is worked back and forth by means of a pitman. One or more potatoes drop down into the recess, when the slide forces the potato against a knife which cuts off all that extends below the knife. After it is cut off the piece or pieces drop down into a furrow which the machine has opened to receive the seed. HARRY WALLACE.



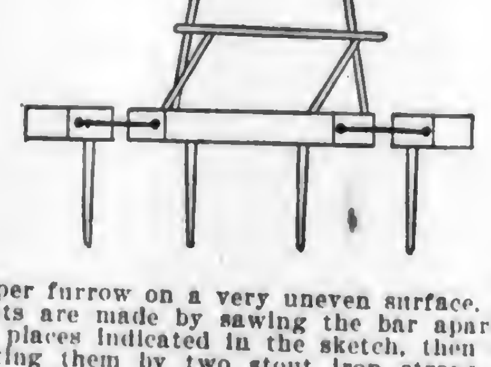
Doudton, Ky.

Easily Made Maul.—Where any fencing is to be done or stakes driven, a heavy maul is an absolute necessity. The kind made in the form of a mallet is unwieldy to use. The one shown in the sketch presented herewith is easily cut out of a small log, and when bound with iron will be found very serviceable and convenient to handle. Make the handle as long as you like and of a size to fit the hand, but let it remain of good size near the head so it will not break easily.



Perrineville, N. J. MRS. J. D. SPRING.

Corn Marker. — The greatest difficulty with the ordinary three or four-tooth corn marker is in the inflexibility of the marker head or long bar to which the teeth or markers are attached. In passing over uneven ground some of the teeth will not touch, while others will run too deep. The marker I send sketch of is constructed to surmount this difficulty. Two joints are made in the bar which allows each tooth to make its proper furrow on a very uneven surface. The joints are made by sawing the bar apart at the places indicated in the sketch, then connecting them by two stout iron straps, the bolts passing entirely through the bar of wood. Four straps of light wagon tire iron, each 6 inches long, and four 6-inch bolts will make two joints. A space of one inch left between the sections of the bar will give sufficient flexibility for the purpose required.

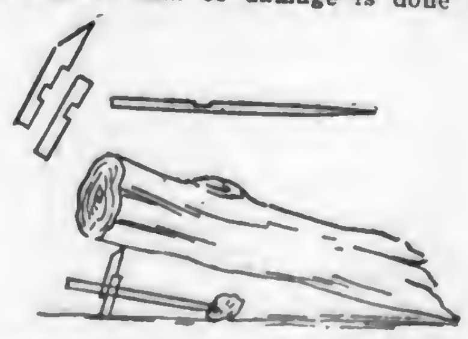


Beaver Falls, Pa. J. E. SOMERVILLE.

That Hog and Sheep Fence.—A year ago this last spring I made the mistake of buying "Climax" hog and sheep fencing for our orchard. The fencing is all right as to durability, I think. The fault of the fence is in the fact that where the ground is uneven it will bulge to such an extent that it is very unsightly. Another fault is that it must be anchored at the bottom to keep it close to the ground. L. R. MARKWOOD.

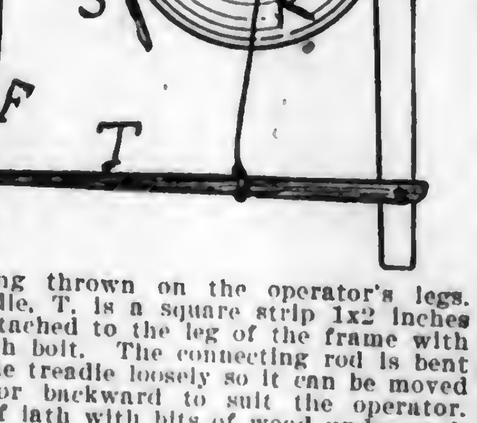
Fairview, Pa.

Good Farm Trap.—Farmers living near small streams or timber are frequently troubled with mink, 'possum and other small animals getting among their poultry. These rodents often become so difficult to catch that a great deal of damage is done before they are stopped. Many times they become so shrewd that they will not get into a common steel trap, even though it is baited. In such cases a very serviceable deadfall can be made out of a small log, pole or fence post; anything that has sufficient weight to kill the animal when it falls. Make the deadfall so it will be as nearly as possible like other objects that they are accustomed to see. If it is a strange or unfamiliar concern it will be somewhat difficult to get them to go in. For bait use a chicken which they have killed the night before, or a rabbit may be used. When the triggers are made correctly the bait should rest on the ground. The long trigger to which the bait is attached should be rather small, as it does not assist in holding the log up; it only holds the two parts of the post trigger together so that when the bait is moved they will spread apart, letting the weight fall. Drive stakes along the sides of the log to hold it in place, leaving the front and a small space behind the bait open for the entrance of the mink. This is the best fall trap that I ever used, and about the only kind that trappers in this section use. It is the best plan to trap the minks during the winter, then their skins can be sold for a good price. The stakes which guide the log in its descent are not shown in sketch, in order to give a better view of the triggers as they are in position.



Lamar, Mo. O. F. SUNSTEDT.

Grinding Made Easy. — The sketch shows plainly how my grindstone frame is constructed and arranged. It is all wood except the rod connection between treadle and crank and that is made of No. 9 wire. The frame is 50 inches long, 30 inches high and 9 inches wide. The seat is shown in the sketch. The splasher, A, is a strip of board fastened close to the stone to prevent water from being thrown on the operator's legs. The treadle, T, is a square strip 1x2 inches and is attached to the leg of the frame with a half-inch bolt. The connecting rod is bent around the treadle loosely so it can be moved forward or backward to suit the operator. A piece of lath with bits of wood under each end, nailed to the leg, forms a slot for the treadle to work up and down in. C is the water can at back of grindstone. Such a stone will prove as satisfactory as a bicycle mounted one. GEO. W. DUGGER.



Hettick, Ill.

For Rheumatism

Neuralgia	Sprains
Lumbago	Bruises
Backache	Soreness
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Use the old reliable remedy
St. Jacobs Oil
Price, 25c. and 50c.

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WINCHESTER No 12 NEW RIVAL
LOADED 3¼ 1⅛ 8 WR
"NEW RIVAL"
Loaded Black Powder Shells shoot stronger and reload better than any other black powder shells on the market, because they are loaded more carefully and made more scientifically. Try them. They are
THE HUNTER'S FAVORITE

Mending Tinware. — I have had good success mending tinware, such as wash boilers, wash basins, milk pan, etc., by the following method: Cut off a copper rivet very short and drive it into hole in tin. Place head of rivet on some solid place and rivet with light hammer. Another and perhaps a better way is to place a couple of thicknesses of paper over the hole, put a teaspoonful of sulphur on the paper and set it on fire. The sulphur and paper will form a liquid which if left stand until cool will fasten itself to your ware and be as hard as iron.

Bliss, Neb. A. R. ISAACSON.

Marker for Corn Ground. — Make a sled with four runners of 2x8 lumber about 6 feet long. Attach a tongue so as to run the marker with two horses. Four runners are better than less, as you get over the ground faster. Make three rows at one time, always running in fourth row the second time to mark the ground true. Make a 2-inch shoulder on the runners so it will mark plain.

Barb Wire Stretcher.—Take a piece of 2x4 scantling, slope off toward one end and about 8 inches from the other end put an eye-bolt through. Have a hook made of a piece of ⅜ wrought iron 3½ inches long, with a loop in one end. Connect this hook to the eye-bolt with a link, having the hook made to fit close over the wire. To use, hook over the wire and pull against the post. The wire can be stretched tightly as desired by this method.

Waldo, W. Va. M. ROMINE.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

SAMSON Galvanized Steel Wind Mills Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

Clark's Tools
FOR LARGE HAY CROPS.

CLARK'S REVOLVING BUSH PLOW AND HARROW
Cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush or bog land; leaves land true, clean for any crop.

Clark's Dbl. Action Cutaway Harrow Moves 15,000 Tons of Earth in a Day.
CLARK'S 8-foot Grading Harrow.
Will smooth an acre as true as a mill pond in twenty minutes.

Clark's Rev. Sulky Disk Plow.
Made single or double. One or two furrows, 5 to 10 in. deep, 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milkweed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

Clark's Cider Mill.
Horse, hand or steam power. From five gallons to eight barrels.
Perfect Grind.
Will grind 75 bushels per hour easily.
Send for Circulars.
THE CUTAWAY HARROW CO., Higganum, Ct., U. S. A.

SHORT CUTS.

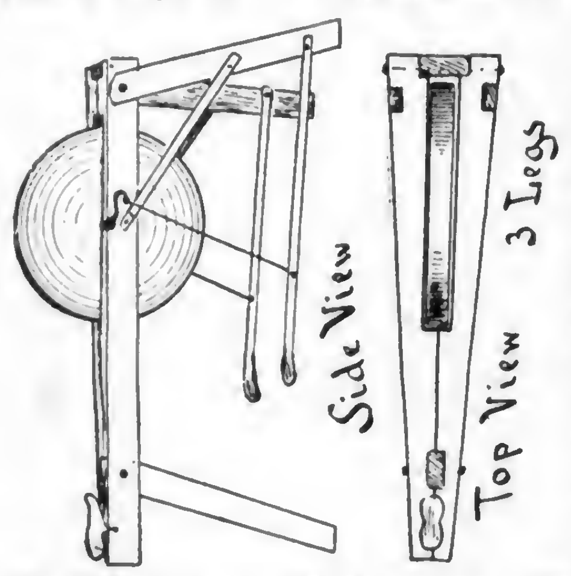
BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Kitchen Table. — A kitchen table can be easily made with very little expense, and will be nearly as handy, if less elegant, than an expensive kitchen cabinet. Cover the top of a common kitchen table smoothly with zinc; turn the edges under and tack. A table covered in this way can have iron kettles and dishes, hot from the stove and covered with pot black, set on it without harm, as it is easily washed and should it get greasy from careless washings, it can be cleaned easily by dipping a cloth in kerosene and rubbing it. Have fastened to the wall over the table a couple of shelves as long as the table, on which to keep cans and boxes of tea, coffee, sugar, salt, etc. Put a row of hooks under the shelves to hang tincups, large spoons, eggbeaters, etc., upon. Have a drawer put into the table with partitions in it, for keeping the cooking knives, forks, spoons, etc. To make it complete have a high chair to use while cleaning vegetables and doing many other kinds of work which can be done while sitting. A. E. BILLS.

Richland City, Wis.

Bicycle Grindstone. — Take 2½-inch plank, 9 inches wide, for the frame, and 2x4 for the legs. The length and width of frame are to be made according to size of grindstone to be put on. For treadles I use 1x3-inch stuff; for crank-rods ¼-inch iron. The treadles are hinged to the cross-piece. This frame, with three legs, always stands even on any kind of surface. JOHN B. SHALLY.

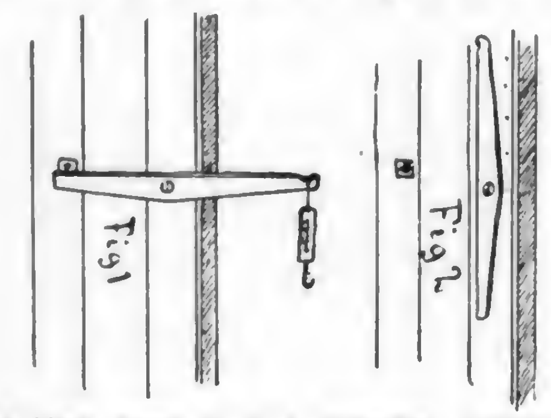


Box 295, Meadville, Pa.

Handy Corn Knife.—Take an old gin saw and have your blacksmith cut a piece off in the shape of the new moon, and to drill two small holes in one end to rivet handle to, being careful to drill them so the handle will be placed right. Take an old broom handle, or something of the kind, and saw into the end for handle; then you are ready for the grindstone. Grind it to a keen edge, and you have a knife that is handy for cutting corn, sorghum or weeds, and it is also handy for pruning fruit trees. H. P.

Hunt, Ark.

Convenient Small Scale.—The sketches illustrate a convenient small scale. The bar is fastened to a post by a large screw, and an ordinary spring balance is hung on the end; a block keeps it in a horizontal position, as shown in Fig. 1. When not in use it can be thrown up out of the way, as in Fig. 2.



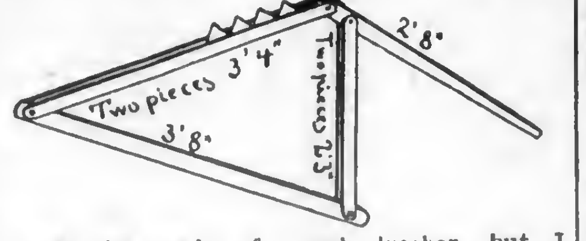
Madisonville, O. WILBUR F. KENNEDY.

Planting and Cultivating Corn.—In many farmers' corn fields there are several feet at the ends of the rows that cannot be cultivated, and most of it is trampled out. Consequently the corn there is scarce, the ground hard and weeds plenty. To avoid this, plant one or two rows, quite thickly, across the ends of the field when you start to plant, and then plant the other rows almost up to these rows. These end rows can be cultivated after the other rows, and at the last cultivation you can thin to your satisfaction if it is not already so.

R 2, Salisbury, Pa. RALPH M. LYTLE.

Save Ink and Money. — If you have learned how to sign your name with ink, forget it. This advice, to many, if followed, would be a great short cut in saving money You never know in what form, or under what document a carelessly written signature may turn up again. Have your signature on a rubber stamp. Use this as freely as you please. If it is under an order to your home merchant, he will honor it. But it will be of no value under a fraudulent note. Have as few dealings with strangers, even without writing, as possible. It is another short cut that saves money. Now and then somebody may come along and bring you a serviceable article that is worth all the money to you that it costs. In most cases all merchandise that you need is kept on sale in nearby stores and by merchants whom you know and who know you. Patronize them. If the goods are not as represented, go back to them and have matters set straight. Don't buy soap of stranger peddlers; nor any other standard article in groceries or hardware. The merchant can do better by you than the peddler. Save money. Save loss. H. W. E.

Ever Ready Wagon Jack. — A jack like the one illustrated is easily constructed, and has many good points over most wagon jacks. One piece 3 feet 8 inches, two 3 feet 4 inches, two 2 feet 3 inches, one, for lever, 2 feet, 8 inches, and one for steps 20 inches long and 5½ inches wide, all others 1 inch thick and 2½ inches wide. If to be used for heavy or loaded wagons, they should be oak or other solid wood; six bolts not less than ⅜ or ½ inch thick, 3½ inches long.



It can be made of rough lumber, but I should use the plane. Care must be taken in inserting the lever, as one way it will not lock itself, and also would not be as strong. Dots represent position of bolts and should be not less than 1½ or 1¾ inches from ends. The steps may be made of 2-inch plank, and worked down to one inch to insert between the two 3-feet-4-inch pieces, which will add strength. To prevent steps from splitting they should be covered on top with hoop-iron. G. W. SEIBER.

Mt. Pleasant Mills, Pa.

Short Cut for Stiff Bonnets. — Make bonnet in usual way, except head-piece. Take the piece of material cut for out, or right, side of the head-piece with a thickness of flour sack to make it thick enough to stitch nicely; baste together and stitch in any pattern desired. The lining may be stitched in same manner as the outside, in same pattern or any other, or not at all, as desired, but must be entirely separate from outside. Sew outside and lining together, front and end edges, leaving back open, which forms a casing in which insert a piece of pasteboard (light-weight best), cut a little smaller so as to fit nicely; then baste back edges together to hold pasteboard in the casing, making head-piece stiff. When laundered take pasteboard out. Use same thickness of starch for head-piece as for rest of bonnet. After ironing insert pasteboard as before, and you will be surprised to find how easily the bonnet was ironed. Those having trouble in ironing a stiff starched bonnet will find this way superior, easier and quicker done. This is especially desirable for a black bonnet, using black calico instead of flour sack on each side of pasteboard.

To Keep Bonnet from Sliding Over the Face.—Take a piece of material 2 or 2½ inches wide and the length of back edge of head-piece, to which sew one edge; put a strong gathering string in the other, sew ends to the gathering in the back where crown and ruffle meet, draw gathering string in the piece until the bonnet fits the head comfortably and tack. Thus fixed a sunbonnet will not slide over the face, and will really be a comfort to the wearer.

R 1, Walker, Mo. JAMES H. TULL.

How we Save Wagon Wheels.—We do not go to the shop and have our tires cut. We can fix them to be as good as new at home, by taking the rip saw and ripping off a strip from a tough oak plank long enough to go around the rim, and of the right width and thick enough to fill the space required to make the tire tight. We moisten it, bend it around the rim, and secure it with a few short, flat head wire nails. With saw we cut a section from the rim so it will close solid and give dish to the wheel. We lay the tires on some pieces of brick, cover with plenty of dry, hard wood and heat them red-hot. We then drop them on, having plenty of water on hand. Unless the tires are very thin they will be as good as new. We heat the tires in the morning before wind rises. J. W. WALKER.

South Cumberland, Md.

Sliced Cucumbers. — First, pick nice, large cucumbers, wash them clean, and then pare them. Take a crock as large as you wish to fill, put a layer of salt in the bottom of the crock, then a layer of sliced cucumbers, then a layer of salt, and so continue until crock is full. Take a cloth and lay over them, then a round board that will just fit inside of crock, and put a weight on it. Set crock away where it is cool. When wanted to use take out as many as you want, rinse them in water, then put them to soak in fresh water for three or four hours; then change the water again. Change water three or four times. Next put them in some vinegar, and season to suit your taste. Cucumbers treated in this way are as fresh as when picked. MILFORD JACKSON.

R 2, Garrettsville, O.

Cleaning a Water Pipe or Sewer.—To clean out a pipe that is used to convey water underground, and that gathers sediment or vegetable matter, which all water pipes will do, take a good, strong cord, say, ¼-inch cord, a few feet longer than the pipe which you wish to clean out. Then get a cork, or some wood, as light as you can, and dress it down so that it will float in the pipe easily; have it 2 or 3 inches long, and the diameter will depend on the size of the pipe to be cleaned. Then fasten the cord in the centre of the diameter of the cork. This may be done by fastening a screw-eye in the cork, or a little staple. Then start your cork down the pipe, and if you have any head of water it will wash through, pulling the cord with it. Have a good sized piece of cloth fastened to other end, and when the cork gets out at lower end you can pull the cloth through, cleaning it nicely. I have often cleaned out a pipe 300 feet long in this way, not having to take it up.

Barium Springs, N. C. N. W. JOHNSON.

Second Crop Potatoes at the South.—The following is our plan for growing second crop potatoes: Break land well in early spring. Keep it harrowed well until July 15. The early crop is ready to dig at this time. Take the small ones that are worth little to use. Lay off rows 3 feet wide, running twice to each row with the plow. Drop potatoes; cover with the plow; cultivate very shallow and flat until almost frost. When frost kills the vines dig and place in the cellar. They will keep until spring and be good for seed for the spring crop.

Hunt, Ark. J. T. PRICE.

To Mend Lace Curtains.—After curtains are laundered, cut pieces of other curtains and match as near as possible, not much larger than the place to be patched. Dip in cold starch, lay on and press dry with hot iron. Some can be done without showing where the hole was. Of course, it has to be done after each washing.

To Keep Chestnuts moist or soft, spread out to dry and sprinkle a little salt to kill the worms. When dry enough to store away put in sacks; put a handful of salt to every peck of nuts; mix through well. The salt will draw enough dampness to keep them moist. M. E. DAVIS.

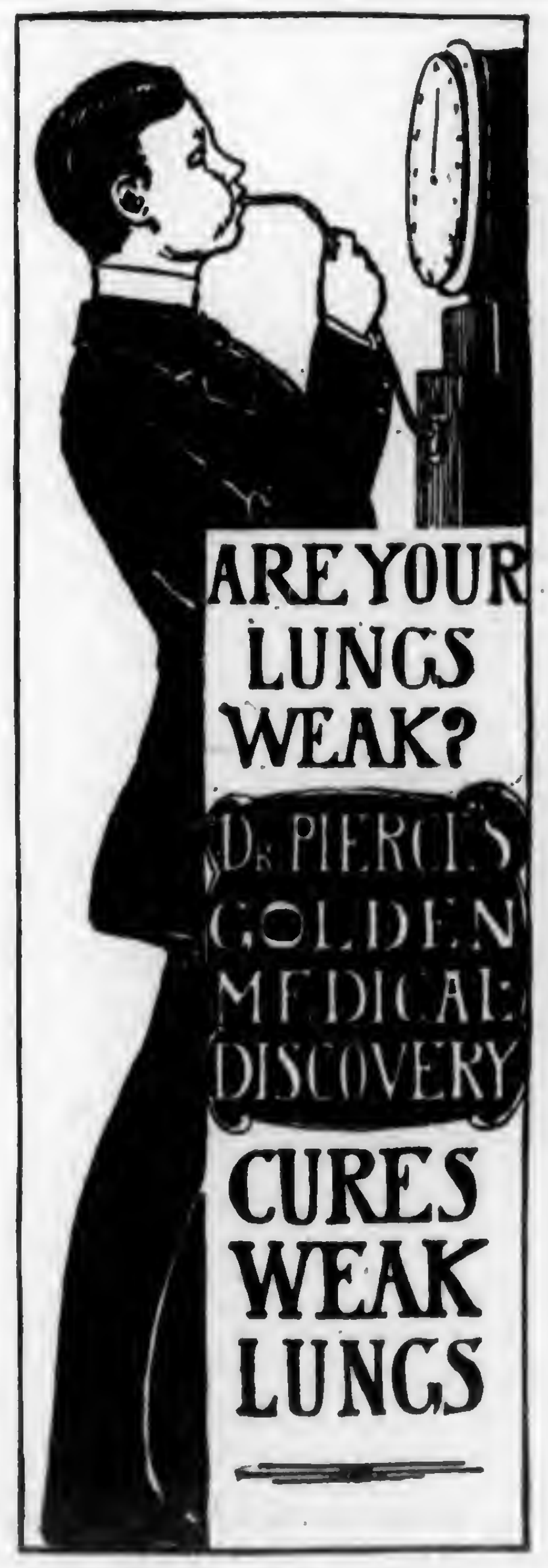
Red Bank Furnace, Pa.

Care of Paint Brushes and Putty.—Paint brushes that have become hard by neglect, can be softened and made to give good service by soaking in boiling water or thrusting under a jet of steam for a few moments, and then pounding with a hammer on a block of wood, and working on a rough board, repeating process until soft and pliable. Brushes should always be carefully cleaned with kerosene after using, all paint got out, and they will not harden if put away dry. Putty can be softened with boiling water in the same way, a little linseed oil worked in, and be made to use like fresh putty. WILLIAM C. AIKEN.

2807 Hoover St., Los Angeles, Cal.

Home-Made Picture Frames.—I know there are plenty of my sister readers who would be glad to know how to make a few nice picture frames to ornament some room. They are made any shape and out of any kind of wall paper you may happen to have on hand. Of course there is a wide difference in the papers. Some are prettier than others. Take a piece of pasteboard, cut into size and shape to suit yourself; I have some square, and put my picture in so as to have the frame hang with point straight down; another one is round; still another longer than wide, just any way to suit yourself. Cut the hole in the centre, at one corner or the other to suit yourself, and cover this board with sheet wadding, then over this your paper, cut to allow for lap-over. Paste this neatly around the edge, then cut and fix the inside for picture. Paste a piece of paper over this on back; leave the size for the picture open at bottom to allow putting the picture in or out. They are cute. You can make them out of plain paper and cut out flowers and paste on. MRS. M. RITCHIE.

R 2, Macedonia, O.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Making Apple Butter.—I do not peel the apples; only quarter, core and trim out all the faulty places. I then cook them in the evening and rub them through a No. 9 sieve, which takes out all the skins; then in the morning I have them all ready to cook. I find this saves apples, as well as labor.

Crandall, Ind. MRS. C. B. ANDERSON.

◆

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EDITED BY GEO. T. PETTIT.

To be issued Dec. 1st, 1903. The successes are all right; but the failures, who likes to tell of them? "Snap Shots" does it, though, and they are told by those who made them. The successes and failures of the farmer are important as guides to those who follow the same calling, showing them how to succeed and how to avoid mistakes. The contributions are all from practical farmers and their wives, from all over the country, and are therefore applicable everywhere. 320 pages.

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We had a slow, steady rain Sept. 12, after three weeks of dry weather. Plenty of rain the first part of August made a good millet crop and insured a good corn crop. Farmers are busy getting land ready for fall crops and pulling fodder, making sorghum, etc. Prices: Oats, 35c.; wheat, 80c.; corn, 65c. per bu.; eggs, 15c. per doz.; hens, 6c.; chickens, 10c. per lb.; land, $5 to $50 per acre. E. C. LYON.
Dawn, Tenn., Sept. 28, 1903.

Fifty miles north of Cincinnati. Weather fine; showers often as needed. Good and large tobacco crop; about all shedded; corn pretty good and well ripened; stock in good condition. County fairs well attended; not room for all the entries in this (Preb'e) county. Wheat sowing begins October 1st. Prices as follows: Wheat, 75c.; corn, 50c.; oats, 35c. per bu.; hogs, $6 per cwt.; cattle as to weight and condition; hogs healthy; no cholera in county. Road work in progress. LEVI RISINGER.
Eaton, O., Sept. 28, 1903.

Located in central part of Wayne Co., 100 miles east of St. Louis, in southern division of the State. This is an agricultural, stock and fruit raising country; have full crops of hay, oats and potatoes; corn 60 per cent. of a crop; much of it is late and will be good if frost is delayed. Corn, 45c.; oats, 30c. per bu.; eggs, 17c. per doz.; hens, 9c.; hogs, 5c.; butter, 15c. per lb.; potatoes, 60c. per bu. Apples about 1 per cent. of a crop. Fall pastures are good. Horses and mules high and in demand; cattle low. Farmers busy cutting corn. Timothy hay, $6; red top, $4 per ton. Much capital invested in apple orchards. The county is up-to-date in every respect. A. COUGHENOUR.
Jeffersonville, Ill., Sept. 26, 1903.

Situated 8 miles west of Greensboro, about 20 miles east of Winston-Salem. Land gently rolling or level. The past season has been a poor one for crops; the ground kept wet in the spring, making corn planting late and injuring the wheat in some places. August was very dry and hot, completely ruining the corn crop in some places; we have had no rain to wet the ground until last week. The farmers are behind with their plowing; the pea crop is short, on account of drought, consequently the farmers are not in very good heart. Crops and prices as follows: Wheat, $1; oats, 50c.; corn, 85c.; peas, 80c. per bu.; pea vines one-half of a crop; horses, $70 to $150; mules, $100 to $175 each. MILES KEPHART.
Guilford, N. C., Sept. 28, 1903.

North Texas. General farming, with tendency to fruit. Seasons variable. Frost May 1st killed most fruit; worms eat young cotton, caused replanting from one to three times. Flood July 3rd and 4th ruined crops on low lands. Hay crop good; corn good; stock mostly scrubs, in good condition. Boll worms in cotton and web worms in alfalfa; seems to be the wormiest country on earth; every year some sort of worm comes forward to eat our crops. Cotton a month late; acreage normal; probable yield one-half; first bale sold Aug. 31st at 13c. per lb.; corn, 35c.; oats, 33c.; wheat, 65c.; yams, $1; apples, 50c. per bu.; hay, $4 per ton for sorghum, to $9 for alfalfa. W. W. BRANON.
Danner, Texas, Sept. 23, 1903.

Located 45 miles south of Montpelier, on White River. Good dairy section. Very cold season. Good crops of hay, oats and potatoes; very little corn and no fruit of any kind. Farm help scarce and high. Light frost Sept. 8th, doing little damage. Prices: Butter, 22 to 24c.; cheese, 16c.; honey, 15 to 18c.; fowls, 7 to 9c.; hogs, 5 to 5½c.; veals, 5 to 6c.; dressed hogs, 6½ to 7c. per lb.; eggs, 22c. per doz.; bran, $1.10; middlings, $1.25; corn meal, $1.35; cottonseed, $1.45; wheat, $1.50; oats, $1.05 per cwt.; hay, $8 to $10; straw, $5 to $7 per ton; cows plentiful at $20 to $40 each. AMOS J. EATON.
So. Royalton, Vt., Sept. 29, 1903.

Located in Sherman Co., 10 miles south of Columbia River. A good agricultural and fruit section. Wheat and barley are raised extensively. Wheat is about three-quarters of a crop this year, and barley one-half. Did not have enough rain; fruit crop fair. Have not had any rain this fall, but have wind. Harvesting is not over yet. Farm help plenty. Prices: Wheat, 80c. per bu.; barley, $23 per ton; potatoes, 50c. per bu.; eggs, 20c. per doz.; butter, 25c. per lb.; flour, $4.25 per bbl.; land, $15 to $20 per acre. H. RICHELDERFER.
Wasco, Ore., Sept. 23, 1903.

Located 25 miles north of Danville, in good farming country. Principal crops are corn and oats; oats not very good; averaged about 30 bushels per acre. Sweet corn has not been delivered to factory; a very good crop, some making $18 per acre; corn, 48c.; oats, 33c. per bu.; hogs, $5.50 per cwt.; chickens, 8½c. per lb.; eggs, 18c. per doz.; farm help, $18 to $25 per month. We have two sweet corn factories here and a tin can factory. Town has no saloon. Mayor gets 50 cents a year salary. THOS. P. SMITH.
Hoopeston, Ill., Sept. 28, 1903.

Located in the eastern part of Huron Co., Mich., 4 miles south of Harbor Beach. This is a mixed farming country. Very wet; work at standstill; more rain fell last week than at any time in the memory of the oldest inhabitant. Potatoes all blighted and rotting; one paper estimates the loss from $40,000 to $60,000 on potatoes alone, in this county; corn fodder good, but ears will not ripen; wheat very late and small acreage being put in; apple crop poor. Help scarce and wages high. Prices: Wheat, 77c.; oats, 34c.; rye, 45c. per bu.; butter, 14c. per lb.; eggs, 17c. per doz.; beans, $1.50; potatoes, 30c. per bu.; pork, 5 to 6c.; cattle, 3c. per lb.; horses, from $50 to $200 each. Farm property high; not much being exchanged. BURR B. LINCOLN.
Harbor Beach, Mich., Sept. 28, 1903.

Located 40 miles west of Greensboro; 35 miles south of the Blue Ridge Mountains, in Stoke Co. We had an average season. The wheat crop was light; oats nearly a failure; corn will be very good; tobacco will be heavy; the prospect for sweet potatoes is about as good as we have seen at any time; peaches were scarce; apples rather less than half a crop. W. F. GRABS.
King, N. C., Sept. 28, 1903.

Located about 12 miles from Marion, S. C., the county seat, and in one of the finest tobacco growing sections of the country. The tobacco crop this year was fine indeed; the prices are low. Cotton crop only ordinary; prices high; fine crop of corn. Farmers are very busy harvesting their crops and working their strawberries. The railroad here offers liberal terms to settlers to truck farm. Potato crop only ordinary; hay crop fine this year. The weather now is very cool. Good luck to the P. F., the up-to-date farmer's paper. LETHER CARMICHAEL.
Fork, S. C., Sept. 29, 1903.

We have had all kinds of weather this season. Frost on the 10th of May; spring on up to the middle of June very wet; then hot and dry, and frost on the 16th of September, which is very early for this part of Missouri. Corn is only half a crop; wheat less than half, from 3 to 15 bushels per acre, but the farmers hopeful of the future. The ground is in fine condition to sow wheat now; seeding just begun, and we look forward for a good crop, as it is the money crop here, and an increased acreage will be sown. SIMON BAUMGARTNER.
Linn City, Mo., Sept. 26, 1903.

Located in Dona Ana Co., N. M., 2½ miles south of Lascruces, the county seat. Weather delightful; very dry this year. Some have made 4 tons of alfalfa per acre; very little corn and wheat; fruit plentiful. Alfalfa hay, $9 per ton; corn, 2c.; sweet potatoes, 3c.; grapes, 2c.; apples, 2½ to 3c.; beans, 5c.; butter, 25 to 40c. per lb.; eggs, 25c. per doz. the year around; chickens, 25 to 60c. each; labor cheap although Mexican, but good people. We need no fertilizer, as our irrigation carries lots of sediment equal to the best fertilizer. Land cheap, $10 to $190 per acre. Labor can be had for 75c. per day without board. We depend upon irrigation and have the best climate on earth; can work 313 days in the year. Poor place for Dutchmen; they work themselves to death. I am only part Dutch. We like the P. F. and think it improves each issue. W. N. HAGER.

Located 1 mile west of Windsor, on the S. F. and the Northwestern California R. R. This is a fruit and wine growing country, which produces large profits. The climate is mild and healthful, making it suitable for invalids and persons afflicted with pulmonary diseases. There are all kinds of mineral springs here in abundance; all kinds of crops grow here in great profusion. Prices of farm produce: Hay, $12 to $15 per ton; oats, wheat and barley, $1.50 per cwt.; potatoes, 1¼c. per lb.; fruit of all kinds at good prices; grapes, $15 per ton at the winery; hens, $5.50 to $6; eggs, 30c. per doz. Weather warm and mild. GEO. W. CHADD.
Windsor, Cal., Sept. 23, 1903.

Located in Athens Co., Southeastern Ohio, 4 miles from Athens, the county seat, 85 miles southeast of Columbus. Weather is hot and dry, with cool nights. Have had no heavy rains for some time, but have had several hard frosts, which injured the late corn to some extent. Early corn is in the shock, and is 90 per cent. of a crop. Wheat threshing over; a large acreage will be sown if the weather is favorable, as the price of wheat seems to be looking up. The wheat crop in this section will average 95 per cent. Crops are above the average here. Prices: Corn, 80c.; wheat, 80c.; oats, 50c. per bu.; horses, $50 to $200; cows, $30 to $60; spring calves, $10 to $18 each; eggs, 21c. per doz.; butter, 25c.; old hens, 8c.; young chickens, 10c. per lb.; potatoes, 60c. per bu.; stock cattle are slow sale at 3½ to 4c. per lb. No fall pasture, on account of dry weather. Free delivery and telephones are in every neighborhood. Good schools and churches. Farm help scarce. Farmers progressive, and a great many P. F. readers. MRS. ADA H. PARKER.
R 1, Athens, O., Sept. 29, 1903.

Fall has set in. The weather has been very coo., but pleasant, for two weeks. The crops are all gathered and the farmers are busy sowing their grain. Farm help is very scarce and wages high. There is a fine crop of apples, the best known for years; peaches were a complete failure throughout the entire county, those on the market selling for $2.50 per bu. Good free schools, good churches, good markets and good roads; plenty of good water, both springs and wells. Health of the people very good, and a mild and genial climate. Prices range about as follows: Wheat, 80c.; rye, 55c.; barley, 50c.; corn, 58c.; Irish potatoes, 40c.; sweet potatoes, 80c. per bu.; butter, 20c. per lb.; eggs, 22c. per doz. C. B. PELTER.
Laurel Hill, Va., Sept. 29, 1903.

Situated in the southern part of Chicasaw Nation. Principal crops raised are cotton, corn, cane for feed, and oats, and some wheat. Owing to drought in July and August cotton only one-half crop, but at present price, $10.45 per cwt., the crop will equal last year's yield; corn fine; cane better; never grew better oats; thin and light. Markets: Wheat, 60 to 75c.; oats, 35c.; corn, 25 to 30c. per bu.; hay, $7 to $7.50 per ton; bran, 90c.; sweet potatoes, 95c.; Irish potatoes, 90c. per cwt.; eggs, 15c. per doz.; butter, 40c. per lb.; chickens, $2 to $2.50; hens, $2 to $3 per doz.; horses, $50 to $100; mules, $75 to $200 each. MAUD CLINE.
Ardmore, I. T., Sept. 24, 1903.

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Blackberries and Dewberries.—Fruit growers will be interested in the attractive announcement elsewhere in this issue of the Milford Nurseries, of Milford, Delaware. These old, reliable, and long established nurseries are making a special offer during September and October on blackberries. Their price heretofore has been $10 a thousand plants, but during September and October they propose to sell them to the readers of the P. F. at $5 per thousand, making no charge for boxing. The Milford Nurseries are large producers of fruit trees, peaches, apples, plums, etc. They also make a specialty of the Lucretia dewberry, and are prepared to name very attractive prices to fruit growers in either large or small quantities. Write them for prices on what you want in this line and mention the P. F.

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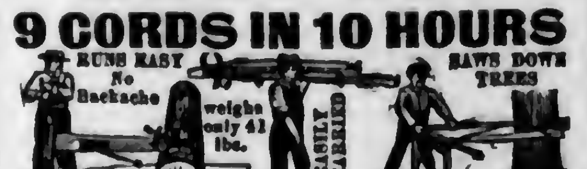

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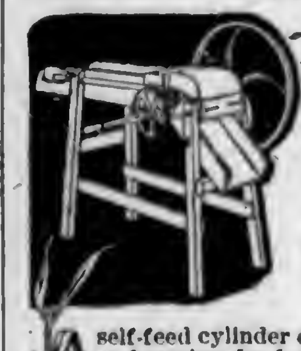

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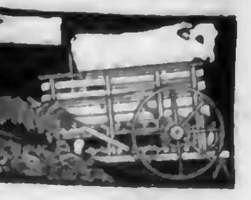

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

What Good Tillage Will do and the Foundation for it.

The following sentence is from an editorial in a late number of the P. F.: "Most of the clay soils especially, need good tillage more than they need commercial fertilizers, and thousands of farmers are annually spending money for fertilizers which they need not buy if they farmed right." For many years I have been preaching this doctrine, and from experience, too. At first I was bitterly attacked by men working in the interests of fertilizer manufacturers, and by others, and really stood almost alone. Many efforts were made to stop my pen and tongue, both openly and underhandedly. But I knew that I was right, and opposition only made me stand my ground all the more firmly. I was offered at one time a fine position for ten years, under contract, where I could make four times what I get now; but it was declined without thanks. I hope I never shall fall so low as to be muzzled by money. Well, to have a great authority, like the editor of this paper, come squarely out on the same platform I have so long stood on almost alone, was decidedly pleasant reading. For fear you may not all have noticed, or fully grasped, the great and valuable truth that is contained in the above sentence, I take the space to repeat it and back it up most heartily. Rightly put in practice, it means hundreds of dollars more profit to each of many of our readers every year. So many are drifting along in a careless, unbusiness-like way, buying fertility that they need not. The air is full of nitrogen; the soil is supplied with large quantities of mineral matter, especially the clay soils, as Prof. Massey says. Why not get fertility from these sources, cheaply, by intelligent management? And this calls to mind a remark made by a certain professor of agriculture, in a letter to a farmer, concerning my tillage experience. He kindly did not question the fact that we had made large quantities of plant food available by tillage, rotation, etc., in our soil; but said that not one man in a thousand could do what I had. Friends, that is altogether too complimentary. We did it when poor and hard up; so much ready money is not a necessity. We worked partly in the dark; every method followed is well known and frequently explained now. We had to experiment and sometimes start over again; you can start right and keep so. All you really need is full faith in scientific methods, and in your business, and persistency enough to make your work back up your faith. There are thousands of clay farms where the owners barely get small pay for their labor, where they make no profit, where they simply cannot lay up as much as one of their hired men can. Don't you know this is true? And you know I say it in no spirit of finding fault with your faithfulness as a worker, but simply because the P. F. wants to help you, and knows it can. There is a vast amount of plant food in your land, but as you manage you get very little of it in a season, not enough to make large, profitable crops. Your land is not really poor, dear friends, as a rule; it is simply unproductive, as you are managing. But now there is one matter at the very foundation of better tillage, of making more plant food available on clay farms, that I want to call attention to today. It is underdrainage—tile drainage, as a rule. This is nothing new. You know all about it. Thousands of clay farms have been tile drained more or less thoroughly. The matter has long since passed the experimental stage. Without underdrainage you simply cannot make clay land do its best, particularly if it is quite flat. The best possible work in tillage may be all thrown away and your crops failures, or partially so. Surface draining in narrow lands, by open furrows, helps some, but it is not enough, as a rule. Underdrain the land thoroughly from 2½ to 3 feet deep. I would like to have the drains still deeper, only the digging is usually too expensive after one gets down about 3 feet. Drains nearer together and not so deep, will generally cost less. Tiles are usually cheaper than labor. With the land thoroughly tiled about 3 feet deep you can soon get rid of standing, stagnant water in the soil, and its injurious effects. Then the air can go in. Then put on your thorough tillage, and your crop rotation, and feed out your crops largely and save all stable manure on cement floors. Grow red clover once in about four years, where you can, or work in cow peas, or something, to get plenty of nitrogen free from the air. Continue to use a little acid phosphate for wheat as long as it pays, and know when it does not by actual measuring and weighing. Use potash, too, of course, if it pays, but in many sections it will not be needed at all, if you save all the liquid manure and till thoroughly. Most all of the potash in the manure that comes from the crops you feed out is in the liquid, you know. How unbusiness-like to let this go to waste under the stables, or in open yards or lanes, and then buy potash for your land. But you say tile drainage will cost so much and you haven't the money. It will cost something like $30 an acre, it is true. But you can soon make land that needs draining better worth $100 an acre for cropping than it now is $40. And the element of luck will be pretty much cast out of your farming. When you work hard you can be almost certain of good pay and a fair profit, with proper management. Instead of anywhere along from nothing up to 25 bushels of wheat per acre you may easily have a quite certain 30 or more. You can surely get the money to do a little draining each year and the profit from that will buy more tiles. Read up about the matter and learn to boss the job yourself. You can do much of the work, also, with the aid of your regular help, during wet times in the fall and spring. In some localities one can often work nearly all winter. I once put in some wheat on land where it would surely be ruined by water unless drained soon. Then at the first possible moment we began digging the ditches. The job was not all finished until after the wheat was started in the spring. We got through with the tiles soon enough to prevent any standing water on the surface, and save the crop, but could not finish the filling of ditches until the ground was settled in the spring. The writer and regular hired men did the work. One of our best farmers told me at harvest time, when we had a fine crop, that when he drove by in the spring he thought we had about ruined the wheat. I hope none of you are more short of money than we were when we did our draining. We simply went without almost everything we needed, as that draining must be done, if we were ever going to get ahead on the farm. We did not have to drain all of our land, however. Oh, what satisfaction there was in making some 35 bushels of wheat per acre, and 4 or 5 tons of hay in two cuttings, grow where before the land was almost worthless; little but clods and weeds. And the reward came so soon on our soil after we took out the surplus water and let the air have a chance to get in. Now is the time to begin to get ready for draining. Study out your system, where you will have outlets, mains and laterals. As far as possible I would drain first only land to be cropped next year. Thus you may get some pay quite promptly. Then in a year arrange to drain the land to be broken up in 1905. Get your tiles on the land, ready. I think you will find in "Our Farming" all the information you will need for draining the land successfully. It is not often that any surveyor will be needed to locate lines or do leveling. You can do it with a spirit level, just as I did. The main thing is to remember that water runs down hill, and give it a chance in all of your drains, and then do all of your work thoroughly well.

Experience with the Jackson Grate.—In June the following was received from Benj. Sharpless, West Chester, Pa.: "I have just read in the P. F. about your ordering a Jackson grate. I got one last fall and it is the greatest cheat I ever saw. We fired it up, but instead of four times the heat from a given amount of fuel, it would not give us one-quarter. We could not keep a 12x15 room warm; and then it is a dirty thing to care for and a heap of work. We used hard coal and also tried it with wood. The constant stream of air brought into the room may be pure, but it is not warm enough to amount to anything. After giving your grate a fair trial I hope you will tell us all about it in the P. F." Well, when this letter came our grate was here and I was getting things ready to change the chimney and put it in. And worse yet, had paid cash with the order for the grate to get a 5 per cent. discount. Did I feel pretty blue? Not at all. Examination showed that the grate was simply perfect in workmanship, and I had satisfied myself before ordering, and before mentioning it, that it was strictly scientific in principle. After reading your letter, friend Sharpless, I would not have given anyone two cents to guarantee me success with it. It was as certain as that two and two make four. But I thank you for writing, for I saw where your trouble was, and determined not to be caught the same way. A mason who had never put in a Jackson grate would almost surely make a botch of it, unless he first thoroughly studied out and understood its way of working. I had intended to get a mason, but changed my plans after getting your letter, and had my carpenter, who is handy with a trowel, lay up the brick-work, ash pit, fireplace, etc., under my own constant supervision. A regular mason would not have liked this. Then I took cement mortar and made the bottom of the opening for grate as level as possible, and the sides as plumb as I could, and the cold air opening precisely where it should be. I put on a little extra mortar, and then when it had dried a few hours, scraped it until every part was exactly right. All this took me some three days, as it was new work. Then we slid the grate into its place, and it did not have to come out again. Everything was right and I knew it. The wise and somewhat pitying looks of some people amused me, but nothing was said. I could afford to bide my time. I knew what the result must be. Well, we have had a steady fire in the grate now for some time, burning hard coal. We have a warm-air furnace in the cellar to help out in winter weather. We wanted this grate to warm the entire house below for some weeks in the fall, and the same in the spring, and then to furnish an escape for impure air in the winter when the furnace was in use, and all the while to give us the cheer and health of an open fire. It is quite cold today. People are passing with overcoats on. The wind is blowing hard. All of our seven rooms below, big and little, are easily warmed by the grate. The thermometer shows a temperature of 72 degrees in the large sitting rooms. To get from the grate to the bath room one must cross one sitting room, and a 3-foot entry, and then the dining room, and still the thermometer in the bath room now stands at 70. In addition to this it is 73 degrees now in my large room above, 15x17 feet, where I am writing, and also in the hall. All this is done by the one grate fire. It is now 3 P. M. and the fire has not been touched since six this morning. It takes about three minutes, morning and night, to clean out the ashes and put on more coal, and that is all there is to do. The fire never goes out, nor even gets the least bit low. We have not burned over 50 pounds of coal in 24 hours, even when the temperature went down close to freezing in the night. As we manage it the fire is more uniform than we ever could keep in a base burner stove. By putting on the blower when cleaning out and dumping ashes into the pit in the cellar, and being a little careful, we get no dust out in the room. This is the only use we make of the blower. The large stream of pure, out of door air, constantly pouring in, is warmer than that from a furnace register and goes all over the house. It is impossible to tell exactly, but my former estimate of three times as much heat as from a common grate was surely not too high. It is like this. Suppose you had one of the old Franklin, open grate stoves. In front you would get radiated heat directly from the fire. Then it would send out heat from the back, ends and top, also. In the grate we have this heat is saved and utilized to heat the fresh air it brings in, on the furnace principle. This heat goes up chimney and is wasted where common grates are used. As we have it arranged, using inventions of my

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own, practically no heat can escape up chimney. These inventions can be made use of where common grates are used, and for burning wood or coal. Their use means the greatest possible economy of fuel and the cheer of the open fire, too. This means millions of dollars' worth of fuel saved to the people. It means that many friends who now cannot afford a grate because of the terrible loss of heat can have the comfort of an open fire hereafter, and all as free as air. More particulars next week. Friend Sharpless, if the draught of your chimney is such that any grate can be used, your Jackson is so carelessly put in that the warm air that should pour into the room is passing up chimney behind the grate, thus spoiling the draught and wasting heat.

T. B. Terry.

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Experience With Cow Peas.

Having spent the first fifty-two years of my life in Northern Pennsylvania and Southern New York, my acquaintance with the cow pea has been limited to the last few years. Five years ago I obtained a few bushels of seed from Baltimore, and in the spring of 1896, the 1st of June I put in three acres for hay with a wheat drill, sowing one bushel per acre. Also sowed one and a half acres for seed, using the same drill, using but two hoes, making the rows three feet apart. The lot for hay made only a fair growth and was cut during a hot and rainy spell of weather. I thought the hay ruined, but the cows ate it so well I took courage to try again. The one and a half acres for seed were cultivated and taken good care of, and gave 30 bushels of good seed. The next year I had ten acres of pea hay and 80 bushels of seed. Have tried the last two years sowing a few for pasture, and find they make splendid grazing for cows and hogs. Horses do not like them green. About October 1st, some years ago, I began feeding both cows and horses on the pea hay. Never saw a team thin in flesh pick up so quickly. Two months after I changed feed on horses, giving them corn fodder, still continuing the pea hay to the cows, and using the refuse to bed them with. After a few days it occurred to me that perhaps the horses would eat the refuse from the cows. After feeding this once and they heard me getting it the next morning, they showed more anxiety to get it than ever to get their corn. Two years ago we had a fair to good Jersey cow, fresh in December, on one gallon of feed per day composed of corn, buckwheat and wheat bran and what pea hay she would eat, made 10 pounds of butter per week, and not kept in a warm stable at that. I have fed the different kinds of hay grown North for 30 years, and from my experience here I much prefer the cow pea hay to any other, both for beef and milk. I am often asked what I feed my horses that makes them so well. I can only answer cow pea hay and a little corn. The last man to whom I made that answer said, "Will they eat it?" In company with several neighbors the other day, talking of cow pea hay, one said: "It is bad stuff unless you have plenty of it, for if you feed it to stock for a time they will not eat anything else." I only had my third crop growing when neighbors began to come and inquire of me how to cure and handle it. I could give them Prof. Massey's instructions, as they were my guide. Having now had some experience I find it no more trouble to cure than a heavy growth of any other hay. Some complain that it hangs together so that it is hard to handle. My way is, after it is raked into windrows, with a wheel rake, to put but three rakefuls in a bunch. First fold together the middle rakeful, then either of the other two and lay one at a time. A bunch put up in this way will pitch apart nicely in three forkfuls, and after a little experience, if to be taken off by hand, the loader need get it tangled up but little. It has taken like wildfire here and there is now more inquiry for seed than ever before. I like them very much to grow between a corn and wheat crop. Think the wheat does better and looks far better without the piles of old stalks and roots all over the field. As a land renovator I consider them equal to anything I have ever tried. They seem to be just the thing to precede a crop of wheat. When we plant for seed we put them in the last of June, and are never troubled with bugs unless we keep them over the second year. If we had plenty of barn room would prefer to mow them away and thresh in winter, then we could feed most of the straw. Not being so fortunate we lay a floor of plank on the ground and thresh with flails as soon as ripe. However, they will keep well in stack until next spring. Can thresh them at a cost of 5 cents per bushel in this way. Lately a friend told me of the success some boys had threshing cow peas with an old wheat thresher. They took out all the concave teeth, then kept taking teeth out of the cylinder until only a few remained. Then sufficiently reducing the motion, proceeded to thresh over 700 bushels, cleaning them nicely and not breaking any more than if they had been threshed by hand on the floor. I thought I had been quite enthusiastic in sounding praises for the cow pea, but find neighbors getting far ahead of me in this respect. Do they pay? Yes, in every way.

Dorchester Co., Md.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Plants for Name.—Martin McDonald, Will Co., Ill.—"Please state if the enclosed plant is alfalfa? If not, what is it?"—The scrap sent certainly looks like alfalfa, and if the flowers are blue, it is alfalfa. But as you sent only a scrap with no bloom I cannot say positively what it is.

W. A. Brevard, Franklin, Ky.—"Enclosed I send a sample of a grass and a legume. Please tell me their names and what they are good for."—The grass is stipa spartea, or "porcupine grass," "devil's needles," and other names. It is a native of the prairies of the North and West, and probably has come to Kentucky in Western hay. It is a coarse grass of little value. The legume seems to be Centrosema Virginiana, one of the plants commonly known as "partridge pea." It is eaten by cattle, but makes too little a crop to be of any value as a forage plant.

Peach Borers.—"Is there anything that peach trees can be washed with to keep the borers out? What time of the year do they get in?" The peach tree borer is the larval form of a moth. After doing all the harm it can to the tree it goes into a dormant state, or pupa, and emerges a full-grown moth and proceeds at once to lay eggs; that is, the female does. The female is a dark bluish color, and the male is much lighter in color. The moths are coming out all summer and laying eggs from May to October. Eternal vigilance is the best remedy. Examine the trees carefully in June and again in October and clean out any borers that have gotten in. Late in the fall pull the earth away from around the tree trunk, and give the trunk a coat of thick white lead paint for a foot above ground. Leave the earth pulled from the base of the tree all winter, and in spring put some tobacco stems there and cover. But a few worms will get in from eggs laid in soft crevices and hence the trees should be carefully watched, and if any gum is seen at the base of the tree you may know that a borer is at work. The paint will, however, keep the greater part of them from getting in.

Beggar Weed.—A. W. Kniple, Staunton, Va.—"I would like to know something about beggar weed. I saw it advertised by a party in Florida, and sent for ten pounds of the seed. Sowed it by his directions, but not a plant came up. It was recommended as a hay and pasture crop and superior to clover as a land improver. Please tell what you know about it."—Beggar weed is one of the desmodiums, or tick seed weeds, so called from the way the seeds stick to one's pants in passing through a growth of them in the fall. The variety which is grown for forage in Florida has a much larger growth than the tick seed common northward. But as it comes northward it loses much of the character that makes it valuable in Florida, and in your part of Virginia it will be about worthless for any purpose. In fact, it is worthless here. In that splendid valley of Viginia you can grow clover as successfully as in any section of the United States, and a good stand of red clover is worth more as a soil improver than all the beggar weed in Florida. The Florida folks cannot grow clover as you can, and hence need legumes that fit their soil and climate.

General Debility

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Lightning Striking.—Thos. B. David, Clyde, Ark.—"What is it that causes the lightning to strike so often in one locality? There is a piece of ground on my farm two hundred yards wide and a quarter of a mile long where I cannot tell how many times the lightning has struck the earth, though timber is all around and only struck occasionally. Some say that it is mineral. If so, what sort?"—You have asked a question we cannot answer positively. It would seem probable, however, that there is a bed of iron perhaps under the land which attracts the electricity. But this is only a guess, and just as good as your neighbors', and no more so.

Resting Land.—C. M. Ferree, Cedar Falls, N. C.—"In resting land, is it better to pasture or to keep stock off? I have an 8-acre upland field, about half of which I turned into pasture about four years ago. Nothing has grown on it but Japan clover, all the weeds and broom sedge being killed. I planted it in corn this year, and the part that has been pastured will make as much more corn per acre as the part that has been kept in cultivation, all planted the same time, with same manure and cultivation."—The idea, so prevalent where continuous cultivation of one crop has been the rule, that land gets tired and needs rest always strikes us as very funny. The practice of occasionally allowing the land to grow up in weeds and grass is, of course, better for the land than constant cultivation. But what the land needs is a regular rotation of crops that will keep it busy all the time between sale crops, growing something like peas or clover, for feeding stock and improving the soil. Fortunately in your case Japan clover ran the worthless weeds out and put in their place a valuable pasture plant and one that is a soil improver—a plant that gets nitrogen from the air. The pasturing added some droppings to the soil, but the main improvement in your corn crop was from the fact that the Japan clover, or lespedeza, is a legume that has the power from nodules on the roots to get nitrogen from the air. Cow peas would have done this better, and would have made a fine forage crop. Our Southern farmers need to learn more than anything else the value of a good crop rotation, and the use of leguminous forage crops in the feeding of cattle and making of manure, while the crop itself improves the land. There is nothing surprising in the fact that the corn crop on the land where the Japan clover was is doubled over that in constant cultivation. It was not the pasturing that did it, but the fact that a soil-improving crop came naturally on the land.

Cow Peas in N. Y.—R. J. Reed, Bristol Centre, N. Y.—"You ask if anyone has tried cow peas in New York State. I sowed one acre two years ago, using two and a half bushels with a grain drill. They ripened some peas. But wanting the pasture in the lot, I cut, before all were ripe, four 2-horse loads. They made fine seed. They were the Black pea, and I got them from Wm. Henry Maule."—You could as well have sown two and a half acres with that amount of seed. On any fairly fertile soil one bushel per acre is enough. You should see the cows here now on a pasture of cow peas that will last them until frost. These peas are on a piece of new, stumpy land, where it is not practicable to run the mower, and there being plenty elsewhere for hay, these are being profitably used by the dairy herd, and the way they make milk would be a revelation to those who have not tried them. We believe that the best use of the cow pea North is as pasture for dairy cows when ordinary pastures are short.

Growing Osage Orange. — Herman Dollman, Lambertville, N. J.—"Can I raise an Osage orange fence from cuttings, by taking the young shoots and setting them like willows?"—No. It is possible that you might grow them from cuttings of the roots, for they sprout perpetually when you want to get rid of them. But the only economical way is to grow them from seed. Then when you have grown a hedge from them you will in a few years want to get rid of it, and then you will have trouble, for sassafras and persimmon will be beaten by it in sprouting. Hedges are not the best farm fence for this country. The woven wire fences are better and cheaper, and will not rob the land on both sides so that you cannot grow crops within fifty feet. Hedges are weed harbors, while the wire fence can be kept neat and clean, and with the Osage you will have to have wire in it to make a fence, for it will die out in gaps. Our advice, after many years of experience with many miles of it, is to let Osage orange severely alone.

Grass for Name.—W. D. Zinn, Phillippi, W. Va.—"I enclose a specimen of a grass that grows along the creeks in this country. It makes splendid feed and a heavy swath. Would like to purchase some seed of it. Where can it be had?" The grass is Panicum Clandestinum. It is a common grass in all the mountain valleys from West Virginia to Georgia. In the mountains of North Carolina it is known as "fodder grass," and is highly valued. We fear that you will not be able to find the seed on the market, and the only way to get them will be to gather and thresh the heads. The specific name of this grass comes from the fact that the seed head is half or more hidden in the top sheath. The grass is well worth growing in moist, cool bottom lands.

Storing Sweet Potato Vines.—W. H. Eberhardt, Bowie, Tex. — "It has been said by some that if the leaves are stripped from the sweet potato vines they can be banked up and stored as we do the potatoes, and will keep all winter, and can be made into cuttings in the spring and make early potatoes. Please give us your opinion as soon as possible in the P. F., as I am a constant reader of your writings." We do not think that such a practice is possible. You may make ensilage by storing the green vines, but even if they kept their vitality I can see no advantage in earliness from such cuttings over the ordinary slips, for they could not be planted any earlier, and the rooted plants would then have the advantage. There is no doubt that cuttings of the vines made in summer and set just as the spring plants are set, will give a crop that will keep more easily in winter than the crop grown from the spring-set plants. Such cuttings set in July will make a good crop. Then to grow small potatoes for bedding the next spring make cuttings of the tips of the vines in August about a yard long. Coil the cutting about the hand and set the coil in the hill so that the tip only will be above the ground. Every joint on the cutting will make a bunch of little potatoes, which will keep well in winter and will give far more plants, and better, than the little potatoes taken from the general crop. We believe that if the vines of the sweet potato are taken just before frost and cut up and stored in the silo they will make good silage for milch cows and pigs.

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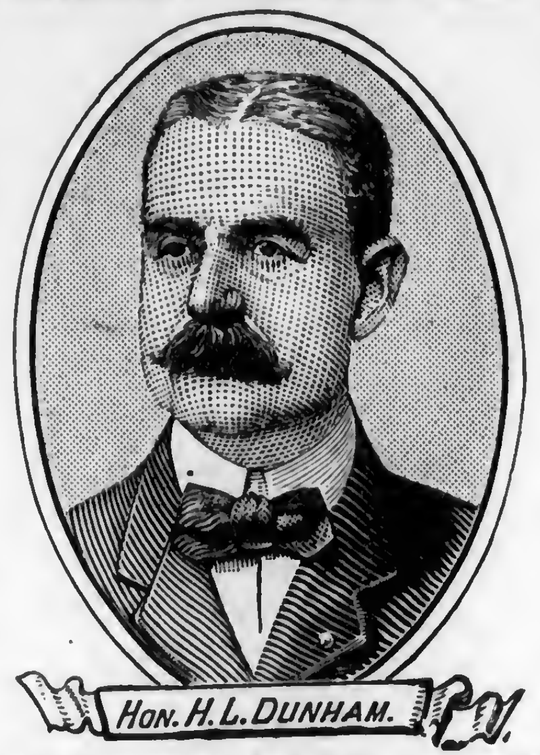

HON. H. L. DUNHAM.

An interesting letter to our readers from Hon. H. L. Dunham, Ex-Mayor of Dover, N. J.

DOVER, N. J., Nov. 12th, 1902.

I had both kidney and liver trouble for over three years. I tried the best physicians in Washington, D. C., Pittsburg, Cincinnati and Chicago, and regret to say that I received very little benefit until I commenced taking the great kidney, liver and bladder remedy, Dr. Kilmer's Swamp-Root. After taking the first bottle I noticed quite a change which satisfied me that at last I had found the right medicine. I continued on until I had taken four bottles, by this time I noticed such a marked improvement in my health, in every way, that I felt satisfied I was cured. But, to be positive beyond a question or doubt, I was in Chicago during July 1902, and went to the Columbus Medical Laboratory, No. 103 State St., and had them make a thorough and complete microscopical examination which showed my kidneys and liver to be perfectly well and healthy. I have their written report in my possession, signed by the doctors of the above Medical Laboratory, which is recognized as one of the best in the country.

Very truly yours,

H. L. Dunham

Ex-Mayor of Dover, N. J.

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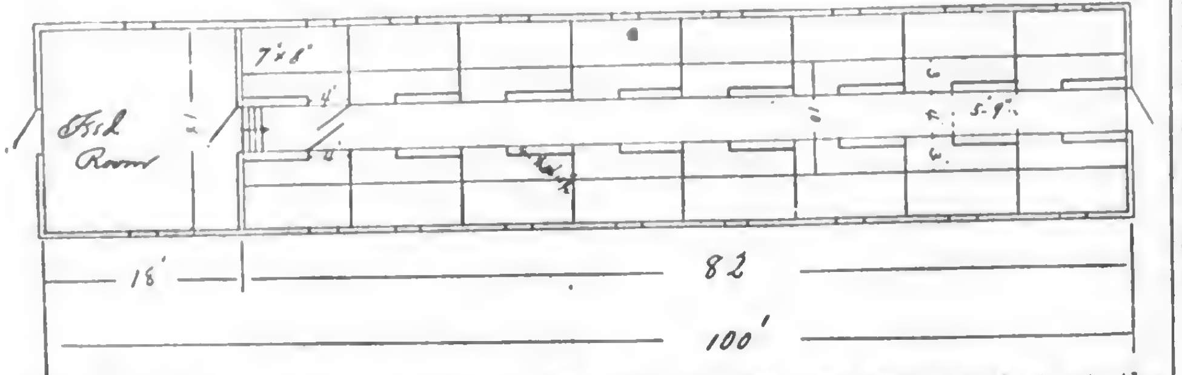
A Convenient Hog Barn.

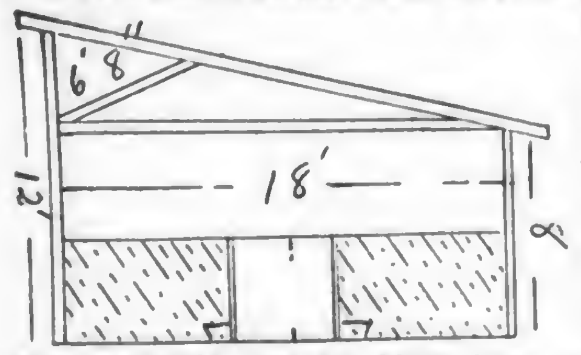
PROF. A. M. SOULE.

A cheap and convenient hog barn is essential on every farm where the porcine industry is made a specialty. In the South various forms of shelters can be used to advantage. For grazing lots and summer weather only a shelter of boards set up on four posts to protect the animals from the sun's rays and from the rain is necessary, but in the cold, wet winter weather, it is very important that suitable shelter be provided to protect the animals from the damp and wet rather than from the cold weather. The damp and wet of a humid climate, such as prevails in the Central South, is more likely to induce rheumatism and pneumonia than the cold, steady winters of a Northern latitude, and so it is important that warm sheltered quarters be provided for hogs in the winter weather if they are to be kept healthy and make satisfactory and uniform gains. A hog barn was erected a little over a year ago on the University farm which has proven to be very satisfactory in its arrangement, and as it was erected at a moderate cost, some facts concerning its construction will doubtless interest swine breeders who may contemplate erecting buildings at an early date. This barn, with yards and all complete, cost about $400. It is 18 feet high and 100 feet long, and contains a feed room at one end 16x18 feet and 16 pens 7x8 feet, with a 4-foot passage down the centre. Eight of these pens open directly into yards 8 feet wide and 50 feet long. These are intended primarily for brood sows and young pigs, in order that they may go out and enjoy all the sunshine and fresh air possible. The eight pens on the other side are intended primarily for the fattening of experimental animals. They could easily be utilized for breeding animals, if so desired, as the doors to each pen are exactly 4 feet wide and those on each side of the passage are swung from the opposite side, so when any two are open they form a complete runway across the hall so that animals can be conveniently transferred from one side of the house to the other. The partitions, as shown in cut, are movable, so that if desirable one pen 7x16 feet can be made. The flooring extends under the troughs and covers 3 feet of the pens. The troughs and flooring are laid on a heavy bed of coal cinders, which protects them from the damp and prevents their rapid decay. The flooring is made of 1½x12-inch oak planks, both for the stalls and for the hallway as well. The balance of the pen is kept well filled with coal cinders or bedding, according to the season of the year. The principal objection to coal cinders is that it makes white hogs look very unsightly, but for black hogs it does not make so much difference. As the hogs are fond of cinders and eat them quite freely, they answer a very useful purpose in the economy of the hog. The feeding troughs are 5 feet 9 inches long, 10½ inches wide and 10 inches high. They may be preserved almost indefinitely by lining with a single sheet of galvanized iron metal, which prevents them from becoming sour and infested with undesirable bacteria, which may later breed some form of disease. When covered with a single sheet of metal in this way they can be effectually sprayed, as can the whole building, once a week or oftener, with some disinfectant material. Gates 5 feet 9 inches long are swung over each trough. These gates are provided with a wooden slot and handle so they can be lifted up and held by the back side of the trough until the food is placed therein when the latch is again lifted and they are adjusted to a normal position. This keeps the hogs out of the trough until the food is properly distributed and saves much annoyance and loss of time and food as well.



A window is provided for each pen in the barn, and a door is placed directly underneath each window on the side opening into the yards. This gives 18 windows to the building, and as they are 2x10x3x4 inches with six panes 10x18 inches, they admit plenty of light and air. They are set in slots and can be moved to one side at will.

The sills and corner posts of the building should be constructed of 4x6s. The rafters should be 2x6s, and the studding 2x4s or 2x6s if special durability is desired; ⅞x10x12 siding should be used, and ⅞x2 inch battens. Matched flooring should also be used for the feed room. The building described as shown by the end elevation, is 8 feet high at the rear and 12 feet at the front. It has proven satisfactory in every way, providing an abundance of light and fresh air at all seasons of the year, and as it will house from 50 to 75 hogs, depending on the size, considering the first cost, it should prove a cheap and satisfactory pen.



Tennessee Experiment Station.

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The Goat Industry.

A new industry is offering itself to the farmers and manufacturers of the United States. The fact that $25,000,000 worth of goatskins are now annually imported into the United States, and that her enterprising manufacturers are now obliged to send halfway around the world for a large share of them, suggests that the farmers of the country have a great opportunity to put a large share of this sum into their own pockets, and that the entire sum may be divided between our producers and manufacturers. A statement just presented by the Department of Commerce and Labor, through its Bureau of Statistics, shows that importations of goatskins into the United States are now running at the rate of $25,000,000 per annum, and that a large share of these are brought from India, China, Arabia, and Southeastern Russia. The increasing popularity of certain classes of kid leather for footwear, as well as gloves, has increased very greatly the demand for goatskins in the United States within recent years. In 1885 the value of goatskins imported was about $4,000,000; by 1890 it had grown to $9,000,000, by 1898 it was $15,000,000, in 1900 it was $22,000,000, and in 1903 it was $25,000,000, in round numbers.

Of this large sum of money sent out of the country to purchase goatskins, $7,000,000 went to India, nearly $2,000,000 to China, $2,500,000 to France, $1,500,000 to Russia, $1,500,000 to Brazil, $1,000,000 to Argentina, and another $1,000,000 to Arabia. From India, which took less than $5,000,000 worth of merchandise of all kinds from the United States last year, and has increased her purchases from us less than $2,000,000 in a decade, we have increased our importations of goatskins alone from $2,000,000 in 1892, to $7,500,000 in 1902. From Brazil, which has reduced her imports from the United States from $15,000,000 in 1895, to $10,000,000 in 1903, our purchases of goatskins last year were $1,500,000. France, Russia, the United Kingdom, Turkey in Europe and Turkey in Asia, Arabia, China, Southern Africa, Argentina and Mexico also contribute liberally to the supply of goatskins to make up the $25,000,000 worth of this product brought into the United States annually.

The farmers of the United States are apparently making no effort to reap any part of this golden harvest for themselves. The census of 1900 showed the total number of goats in the United States to be less than 2,000,000 in number, and when it is understood that the skins of probably 20,000,000 goats were required to make the $25,000,000 worth imported last year, it would seem that the supply from the United States could have formed but a small share of the total consumption. Yet the fact that a large share of our supply of this important import comes from India, China, France, and Mexico suggests that there are large areas in the United States which might produce goats successfully and in sufficiently large numbers to supply the entire home demand.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Farrowing Troubles.—Last year two sows had difficulty while farrowing. I borrowed pig forceps from a neighbor; with these I hurt the sows' insides, both dying, undoubtedly, from the effect.
Eagle Grove, Ia. E. B. KIRKEBERG.

The use of forceps may usually be avoided by allowing the pregnant sows plenty of exercise every day and feeding them some succulent foods, such as roots or ensilage, to keep the bowels open. Excessive feeding of corn, which induces fat and sluggishness together with constipation, is the common cause of farrowing troubles. Feed middlings, bran, flaxseed meal, milk, etc., with the succulent food and sprinkle whole grain over a large area then cover this

with litter or straw and turn sows into it once or twice daily so that they will root after the grain. This gives a wonderful amount of beneficial exercise. When a sow has great difficulty in pigging it often helps to inject her womb full of warm flaxseed tea or slippery elm bark tea. As she strains and throws the fluid out the pigs are often born or brought into place so that they soon follow. Forceps may be used without danger by those having experience, but are a deadly instrument otherwise.

Streaky Cream.—We have trouble with cream; has blue specks on it before it gets sour. Have milk in cellar; cement floor, two windows and one door. Cows on clover and timothy grass; very few rag weeds; have running water for cows. Churn twice a week. Pump water through milk trough; all waste water goes through cellar.
Navarre, O. W. F. SNIVELY.

This may be due to indigestion, but is often caused by lack of cleanliness in management of utensils, cooling room, cooling tank water, etc. If latter particulars are unlikely to be the cause, better give the affected cow a pound dose of epsom salts, then follow with two ounces of hyposulphite of soda twice daily in water. To find which cow is to blame keep separate samples of milk from each cow and allow cream to form.

Lumps in Udder.—Can you advise me as to cause and cure of lumps which have just appeared in cow's udder at base of two teats? Largest is about size of small pecan nut. They are not sore, and do not seem to affect milk in any way; seem to be just under skin. Cow in good health; gives about 10 quarts a day and has been milked clean since I have had her. Lumps were not there when I bought her, two weeks ago, but there was a nearly healed spot just where udder is attached to belly, where she may have been snagged. E. F. CUSHING.
St. Louis, Mo.

The "lumps" may be enlargements of glands or traced to a former attack of garget, and should be watched lest they enlarge and interfere with milking. Sometimes these hard lumps develop into boils, and after being opened, pus evacuated and healed up, break out elsewhere on the udder. In such cases we give a pound dose of epsom salts and follow with two ounces of hyposulphite of soda twice daily in water. Again, they may be the remains of an attack of cow pox, which sometimes seems to come and go, evidencing its presence by one or more tumors forming and breaking out. Would advise you to rub the parts once daily, after milking, with a small bit of mercurial ointment used with plenty of massage. Also give two drachms of saltpetre twice daily in drinking water for four days. See that cow does not bruise her udder in narrow or insufficiently bedded stall.

Garget.—I have a cow that was bitten in the udder by a snake over two months ago. The udder swelled considerably. I finally reduced the swelling in the upper portion, but the lower portion refuses to resume its natural proportions. The enlargement would probably fill a gallon measure, and makes the left back teat so short that milking is difficult. There is no apparent fever and the milk flow is undiminished. The cow seems to be in good health. Can you tell me what is the matter and what the remedy? S. R. AHRENS.
Fayetteville, Ark.

We fear it will be practically impossible at this stage to restore the normal condition and lost function of the affected quarter, which seems to have become organized in present shape. The best chance of improving condition would be to rub the udder thoroughly (affected part) once daily with mercurial ointment applied with massage. Also give her a half drachm of iodide of potash twice daily, but stop it for a time should you notice that her milk flow is decreasing, as this drug has that effect.

Grease Heel.—What can I do for my horse? He has something like grease heel; one foot is sore; the inside is soft and in knots. When I bought him the man said his foot was mending, but now it seems to be getting worse. One side of the hoof is nearly gone. I have been putting carbolic acid and hot mutton tallow on it. I do not let him stand in the stable. JOHN A. HESS.
Fredericktown, Mo.

Stop feeding the horse grain and substitute bran mashes, hay and roots. Keep him in roomy box stall in barn and give him plenty of work or exercise every day. Night and morning give him half an ounce of Fowler's solution of arsenic with syringe in mouth and keep it up for months if necessary, but do not stop it suddenly. Cleanse parts thoroughly with carbolized hot water and soap and when dry poultice with hot flaxseed meal, mixing in each poultice two tablespoonfuls of powdered wood charcoal and two drachms of Chloro-Naptholeum. When discharge ceases quit poulticing, cut away all loose and rotten horn and cover with cotton batting and bandage after sprinkling thickly with a powder composed of equal parts tannic acid, calomel and iodoform. Dress parts with powder once daily.

Thoropin.—I have a young horse four years old, that has developed thoropin on each hind leg; they are of about four month's standing. Please tell me what will remove them. D. M. MARTIN.
Osawatomie, Kan.

If the thoropins do not cause lameness no severe measures should be taken to reduce them, but pressure under cold, wet bandages will prove beneficial. A special, expensive truss is the best treatment, but where lameness is present we would advise you to clip the hair off and blister the entire joint, as so often advised in this department. Firing and blistering are sometimes necessary. After all is said the treatment of thoropin is considered quite unsatisfactory.

Tapeworm of Dog.—Can you tell me what to do for my dog? He passes small, flat, white worms about three-quarters of an inch long and one-third of an inch wide. They are not like stomach worms, nor do they attend movements, but appear several times during the day. Is there a remedy for this? G. W. COATES.
Pine Bend.

The objects described are ripe segments, or joints, of a tapeworm which contain eggs. Starve dog for 18 hours, then weigh him and administer in cream one and a half grains of freshly powdered areca nut for each pound of live weight. Follow in two hours with two or three ounces of castor oil, according to size of dog. Give this shaken up in milk. During treatment keep him in an unbedded pen, so that the expelled worm may be found and destroyed. It would be well to repeat the treatment in one month. In sheep dogs such treatment should be given twice a year on general principles, as "hydatid" of the brain of sheep, causing the disease known as "gid" or "sturdy" is due to the eggs of the tapeworm of the dog. This tapeworm passes one stage of its life in the form of a bladder-like cyst in the brain of sheep.

Capped Hock.—I have a fine horse with a capped hock. About three months ago he kicked in the stable and struck a beam with the hock and I thought the swelling would go away, but it now seems to be calloused, but does not lame him. What will remove it? What is the best remedy for scratches?
Currinsville, Ore. W. H. HOLDER.

Unless taken at once and properly treated, capped hock develops into an incurable calloused condition. First treatment should consist in removing cause by placing horse in box stall or padding the heel post of ordinary stall and treating the inflamed point of hock by poulticing with antiphlogistine, pipe clay and vinegar, or one of the commercial plastic dressings to be procured at drug stores. After the inflammation has subsided the part may be blistered with biniodide of mercury, one drachm; lard, one ounce, or rubbed once daily with iodine ointment. At present stage it may be possible to do some good by clipping hair off and rubbing part well once daily with mercurial ointment applied with massage for 15 minutes. When skin becomes irritated stop using the ointment and merely smear with lanolin once daily until skin is normal again, after which the treatment may be resumed if necessary.

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A Fall Catalogue. — We would most heartily advise any of our subscribers or their friends contemplating planting fruits and ornamentals (this being the best season to do so) to write for the autumn catalogue of T. J. Dwyer, whose advertisement appears in our columns, mentioning the P. F.

COLIC.

PAIN in the intestines or stomach of a horse is called colic. It frequently occurs from constipation or by the bowel becoming occluded or impacted with fecal matter.

It may also result from indigestible foods, from improperly cured grain, sudden changes of diet or any influence which will reduce the digestive powers of the animal, such as exhaustion, exposure to severe cold. If animals are fed while in this condition they are extremely apt to suffer from colic.

Colic due to fermentation of the food or flatulence is best treated by giving remedies which will prevent formation of gas and absorb that already formed. For this purpose alkalies give best results, such as 1 to 2 ounce doses of aromatic spirits of ammonia well diluted. In severe cases anodyne should also be employed. For this purpose 2 ounces of fluid extract of hyoscyamus, or ounce doses of chloral hydrate diluted, can be administered at once.

In cases of colic due to impaction stimulants must be administered. Recent treatment by the administration of half-ounce to an ounce of powdered nux vomica with 2 ounces of carbonate of ammonia made into pills and given at once, has given excellent results. This can be followed by such laxatives as a pint of flaxseed oil or a half-pound of glauber salts. Aloes as a purgative is not always free from danger, as in many cases it proves to be poisonous.

Keeping the horse in thorough condition is the best preventive of colic. Give regular, small doses of Dr. Hess Stock Food, the great horse tonic. This will keep his digestion very strong and his appetite sharp; he will gain systemic strength rapidly and soon overcome the inclination to colic. Along with this improvement in general health will come a sleek coat, readiness of action and increased strength. Dr. Hess Stock Food is invaluable in toning the reproductive organs—and in tiding the colt over the dangers of the first year.

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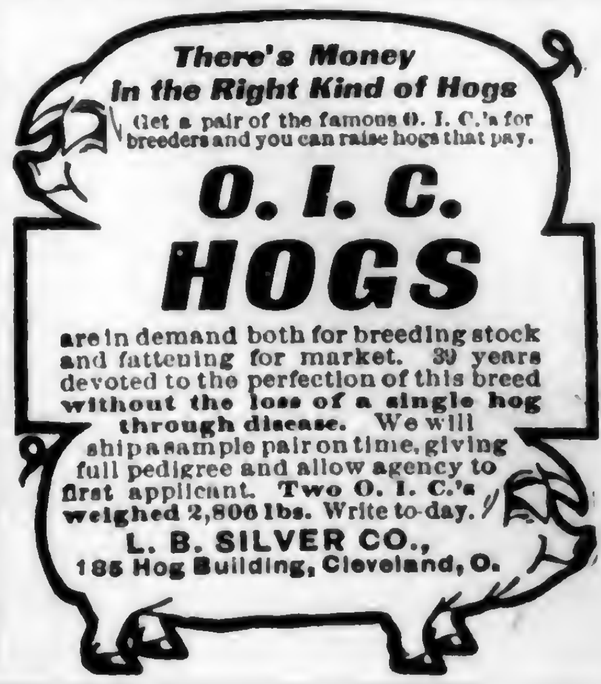
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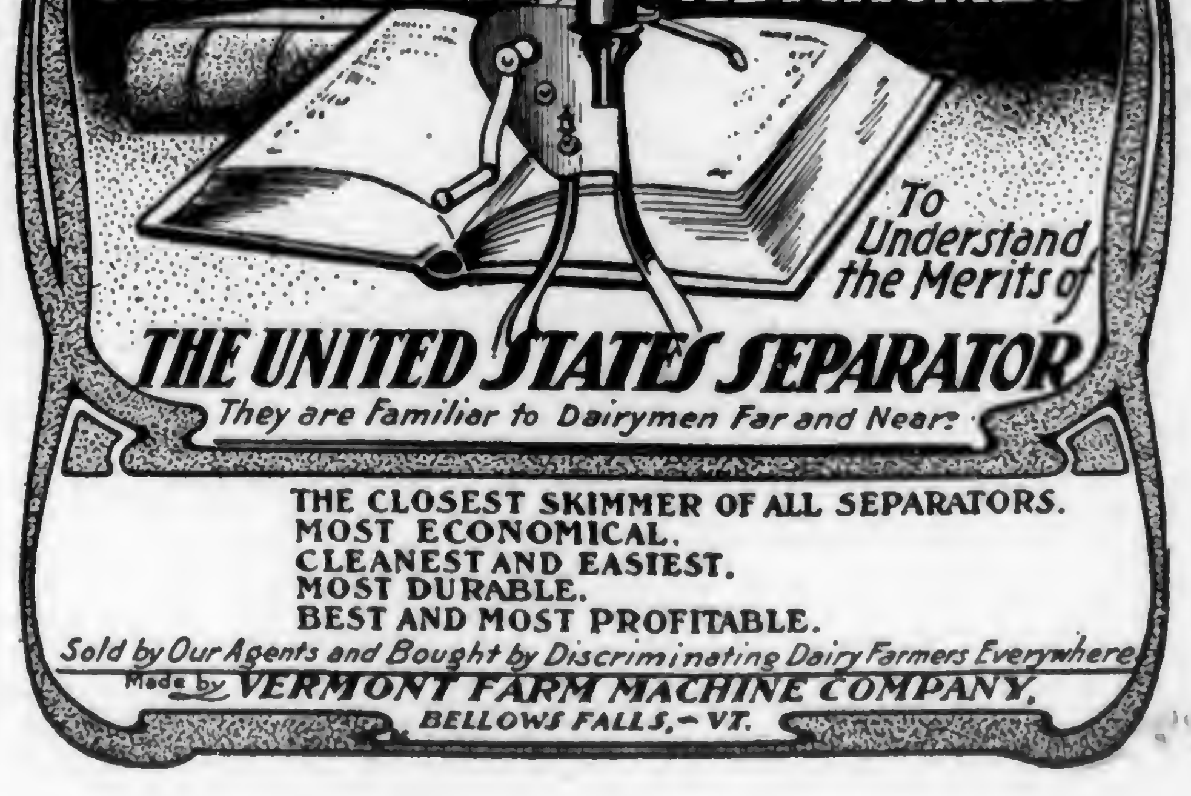
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

The Maintenance of Fertility.

In Bulletin 141 just issued by the Ohio Agricultural Experiment Station (Wooster, O.), Director C. E. Thorne, draws the following conclusions from the results of field experiments with fertilizers recently made at the Station:

1. For soils under test in these experiments phosphorus is the controlling element in producing increase of cereal crops, and neither nitrogen nor potassium will produce a profitable increase except when used in association with phosphorus.

2. Except on soils which have been depleted by exhaustive cropping the quantity of phosphorus in the fertilizer, as compared with the nitrogen and potassium, should be much greater than that found in barnyard manure.

3. While the effect of nitrogen in the fertilizer is secondary to that of phosphorus on these crops grown in rotation with clover, the considerably larger increase produced by fertilizers containing nitrogen, especially in the wheat crop on the worn soil at Wooster, is evidence that this element cannot be entirely omitted from a fertilizer for such soils without loss of possible increase.

4. Potassium apparently occupies the third place in a fertilizer for these soils, yet it is evident that some carrier of this element is essential to the highest effectiveness of the fertilizer.

5. No definite ratio between the different constituents of the fertilizer can be fixed for all soils and crops. Apparently, crops immediately succeeding clover or other legumes require less nitrogen in a fertilizer than those more remote, while the ratio between the phosphorus and potassium needed is probably chiefly determined by the geological history of the soil.

For soils similar in character to those used in these experiments we suggest the following fertilizer formulæ, as being approximately indicated by the results of our own experiments to date, holding these suggestions open to change with the progress of our work:

FERTILIZERS SUGGESTED FOR DIFFERENT CONDITIONS.

Conditions	Percentage composition		
	Ammonia	Phosphoric Acid	Potash
For crops immediately following clover	1	13	2
For crops 1 or 2 years after clover	3	12	3
For crops 2 or 3 years after clover	4	12	4
For crops on exhausted soils	6	11	6

Current Comments.

Wool Waste as Fertilizer. — W. C. Burrus, Roswell, N. M., writes: "Will you tell me the value of wool cleanings as fertilizer? The cleanings I refer to are the cleanings received by the first process the wool is taken through at the wool scouring mill. It consists of dirt, excrement, etc., that is ground very fine in the process of cleaning from the wool and is thoroughly soaked with the oil from the wool. How should it be treated and applied?" In reply to this I would say that the only way to settle the question as to the value of this material is to have it analyzed. Forward a sample of it to your nearest Experiment Station with request to analyze it. Wool waste is an article of greatly varying value. Some samples contain a high percentage of nitrogen, up to 17 per cent., I believe, and are therefore quite valuable for plant food. An average sample, however, will probably contain less than 2 per cent., with about 0.30 per cent. phosphoric acid and 3 per cent. potash. Such wastes might be composted with stable manure, preferably adding 25 or 50 pounds of superphosphate to the ton of wool waste; or they might be applied directly to the soil and thoroughly mixed in.

Celery Queries. — Elsie Nordhoff, of Alpine-on-Hudson, N. J., writes as follows: "Can you tell me whether in using fowl or pigeon droppings for fertilizing celery, we need as much as of commercial fertilizer? I am trying to raise celery for the market, and have the opportunity of supplying the clubs in New York at first-class rates if I can give the right sort of celery. This is my first year, and though going carefully, I confess I find it a more useful year in experience than money. I could not raise my own plants, which I think has something to do with it. Could I raise the early celery in a cellar which is fairly light, well ventilated and heated and dried by a big furnace which heats the house? I have only a cold frame, which may not be warm enough. I have two acres of beautiful celery land, which is four miles from a good market, and twelve miles from New York, with plenty of fowl and pigeon droppings for fertilizer, and plenty of water." Chicken, and still more, pigeon droppings, are quite rich in plant foods, especially nitrogen, and therefore often of great effectiveness in forcing succulent plant growth, just what we want in celery culture. A ton of such droppings, if well kept and not too wet, will contain probably no less than 30 pounds each of nitrogen and phosphoric acid, and 16 pounds of potash. A good high grade fertilizer, such as are sent out by the big firms as "potato" or "special vegetable" manures, contain perhaps 100 pounds nitrogen, 160 pounds phosphoric acid and 160 pounds potash, consequently in one ton as much as found in four to six tons of fowl droppings. Yet I would just as soon rely on the latter as on the chemical fertilizer, for marked and lasting results. If one has two acres of good celery land, plenty of water, plenty of fowl droppings, and a good market for fancy celery within from 4 to 12 miles from the patch, I think it is a combination of circumstances which with a little perseverance and push, must surely lead to success. The right way to begin, for the novice, however, is in a moderate way. The attempt to grow two acres at the start would, in most cases, end in failure. There are a good many kinks and tricks about the business which one has to learn, and will seldom learn except by practical experience. It is just so in onion growing, and in a good many other things. Begin on the simplest plan. Make rows three feet apart for board blanching, or five apart for earthing up; plow furrows and fill in a fair amount of the droppings, mixing them thoroughly with the soil in the furrow, and then fill up to near the level of ground with soil in which more droppings have been mixed. Set the plants in single row, six to eight inches apart. Cultivate and hoe frequently, and finally blanch by boards or earthing up. Early celery of the self-blanching sorts (of which Golden Self Blanching is about the best, and surely the most popular) is usually finished off by board blanching. In this way very fine celery can be grown. Water may be applied, in a dry time, by letting it soak in between the rows until the ground is well wetted down. For growing early plants I prefer a little greenhouse, although an early hotbed will do. The cellar containing a big furnace, is probably too dry for the purpose. Seed may, however, be sown in flats, and these stacked up in any cellar where a mean temperature of 60 or 65 degrees is maintained until the time when the plants break ground. The flats should then be removed to the light, in a greenhouse or frame. All is easy enough when you know how. I would like to have the inquirer's chances.

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Notes from a Carolina Garden.

The dry weather prevailing here at the end of September is making it very difficult to get a supply of lettuce plants for the frames. Even where the seed has germinated the growth is very slow, and now that the plants for heading in November and December should be set, there are none yet large enough, so that the early crop promises to run short. We have just made the third sowing of seed for plants to winter over for setting in March, and these, with the mid-winter crop, will probably be all that we will have. The best germination is where we tramped the rows well after sowing, and we find that in dry weather this firming of the soil on the rows with the feet is a very important matter in sowing seed of any sort.

We are waiting impatiently for rain enough to set strawberry plants, as we like to set a new bed annually, so as to have one just coming in and one in full crop to be plowed under. Some of the finest cotton crops in this State this season are growing on the heavily fertilized land where a crop of strawberries was shipped from in April and May and the plants plowed under and the land sown to cotton. The cotton shows the benefit of the heavy manuring the strawberries had, and will make a bale or more per acre after a profitable crop of berries was shipped from the same land. Among much of this cotton crimson clover is sown as a winter cover and a hay crop in the spring, and our growers are fast learning the value of intensive work. In the strawberry section land that a few years ago could be bought for $10 per acre is now held at $100 or more.

I have been much interested in the great increase in the gladioli of the Groff's Hybrid class. In the spring of 1901 I bought 100 of these. These have been carefully grown and annually lifted and divided and the bulblets planted. Last week I lifted my crop and find I have over 3,000 blooming corms and tens of thousands of little bulblets. From the best varieties, which are not inclined to make as many offsets as others, I have saved a quantity of seed. These will be sown to give new sorts. I have grown the gladiolus from seed, here, to a blooming size in a single season. Planted early here the corms will bloom in June and at that time the cut spikes command an average of $5 per hundred in the Northern markets, and our commercial growers ship them in large quantities to Philadelphia, as well as flowers of the narcissus and other things, and the cut flower trade from the open ground in the South is rapidly growing in importance. In the coast region of this State, where the Cape jessamine grows to a tree-like size, its flowers, too, are being largely shipped in summer packed in boxes with ice.

The big Marechal Niel roses that clamber over my wire fence are putting on their fall flowers with rosy pink outer petals really finer than the spring blooms, and the tea roses in general are taking on their autumn tints which are far more attractive than the early bloom, the cool nights seem to have the effect of deepening the colors.

The hardy orange, Citrus Trifoliata, is covered with its golden fruit, and it seems to be a pity that they are not edible. They are very aromatic, however, and a few of the fruits in a room will perfume the whole apartment.

◆

Skunks are Mostly useful by devouring grubs and bugs. But in an emergency the odorous animal will catch bees and become quite troublesome to the bee owner. In that case, or when it gets after chickens—get after the skunk's hide.

We Raise the Vegetables for which we anticipate ready sale at fairly remunerative prices. Vegetables that cannot be sold readily represent so much dead loss. If the call is usually for carrots, raise carrots; if for sweet corn, raise sweet corn, etc.

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There is such a thing as forbearance ceasing to be a virtue even in the case of one's stomach. There is no question but that some stomachs will stand a great deal more wear and tear and abuse than others, but they all have their limit and when that limit is reached, the stomach must be reckoned with as sure as fate. The best way and really the only effective way to treat your stomach when it rebels is to employ a substitute to do its work. This will give the weakened and worn-out organ an opportunity to rest and regain its strength and health.

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The stomach being thus relieved by Stuart's Dyspepsia Tablets, is restored and renewed by Nature and the rest of the human body does not suffer in the least by reason of its failure to perform its work.

A Wisconsin man says: "I suffered the pangs of dyspepsia for 10 years. I tried every known remedy with indifferent results until I was told of the remarkable cures of Stuart's Dyspepsia Tablets. I bought a box, began taking them and forgot I had a stomach. Three boxes cured me completely. I have had no trouble whatever for a year and have an appetite like a harvest hand and can eat anything that is set before me without fear of bad results."

Stuart's Dyspepsia Tablets are for sale by all druggists at 50c. a box. The druggist never fails to have them in stock because the demand for them is so great and so pronounced that he cannot afford to be without them. People who could not get them of one druggist would go to another and would get in the habit of buying their other drugs there as well as their Stuart's Dyspepsia Tablets.

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SEND 10c for Prof. Woll's Book on Silage.
ROSS ROSS

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Situation for Peaches.

A correspondent in Eastern Pennsylvania says he has an acre or two of land lying near a stream, the soil being deep and moist, and that he contemplates setting peach trees in it, and asks my advice. It does not strike me favorably. The being near a stream is all right, but the "deep and moist" soil indicates low ground, and this is not the place for peach trees. Such a situation means a late growth in summer, this late growth to be destroyed by winter freezings. Besides this, a low piece of ground, being sheltered, is warmed up too early in spring, forcing out the flower buds so early that late frosts catch them; and late frosts occur in valleys when higher ground escapes. If the situation is but what a canal would be running through a level field it would be unobjectionable, but if a valley, I would not endorse its use. As a prolific source of loss of crops of the peach is late frosts, the best place for Northern men to set their trees is on partly elevated ground, with an eastern or northern aspect. In such a place vegetation moves later than elsewhere, and rarely indeed are the blossoms on such trees hurt by frosts. Deep soil is all right, as it is generally very fertile, and half of the peach orchards that decay do so for want of food. The peach loves to be well fed, and this it rarely is. Anyone wishing to see what good food will do should look at the peach trees to be found in many city yards, where kitchen slops are fed to them. The dark green foliage is a pleasure to see; and the trees really become shade trees, so large do they grow. In the North it is better to set peach trees in spring than autumn, but if two years old, with hard wood, fall planting may be done, with a good pruning following.

Sowing Tree and Fruit Seeds.

Forestry matters are ocupying a large share of public attention just now. Besides the raising of seedling trees for this purpose, on almost every farm there is a place where some tree or trees could be planted with profit, and many a person could as well raise these trees from seed as buy them. It is nearly always the case that nurserymen, who raise seedlings by the hundred thousand, can supply them cheaper than an amateur could, who had to buy his seed, but very often there is the seed of what is wanted wasting on his own place. Omitting evergreens, which are better sown in spring, there is hardly a seed but that may be as well or better sown in the fall than at any other time. Take the maples, ash, locust, magnolia, poplar and the many varieties of acorns and hickories and walnuts, all may as well be put in the ground. The catalpa is found to do better when sown in spring. All fruit seeds, apple, pear, cherry, plum, peach, etc., as well as sweet chestnuts, should be fall planted.

Those who fail to get their seeds sown in the fall need not despair. In a general way it may be said that spring is almost as good, if proper care be taken of the seeds through the winter. But there is this much always in favor of the fall sowing: The seedlings come up earlier in spring than when the seeds are spring sown. When it is decided to sow in spring instead of fall the seeds must be kept in a slightly damp place until the time arrives. If an old-time damp cellar be at command, it will do. Lacking this, place the seeds in boxes, mixed with slightly damp earth. When so fixed any cool building will do for them. Just as soon as spring comes and the ground will permit of working, get the seeds sown. Evergreen seeds do not require to be kept moist. Any cool room will be a fit place to keep them in until spring.

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Horticultural Queries.

Quince Tree Query.—I would like to know whether quince trees can be grown from cuttings or not. If so, what growth should be used and at what time?

New Castle, Pa. L. W. BLACK.

Quinces can be grown from cuttings. The shoots of the present season are used. Cut them off in early winter, make into seven-inch lengths, tie in a bundle, pack in soil in a box and set away in a quite cool cellar until spring, then set them out-doors, placing them at a depth that three inches are above ground. Increasing them by layering is more common. Soil is heaped around the brush and the same shoots spoken of, when of sufficient length, which is at about mid-summer, are layered in the good soil which has been heaped for the purpose. A shoot of sufficient length is selected to permit of its being bent below ground, forming a half circle, with both ends projecting from the ground. At the lowest point of the half circle a slight cut is made just below a leaf and extending upwards. This cut part is where the new roots will emerge. Fill in about the layer with soil in which there is a good proportion of sand, as roots come quickly where sand is. The layers should be well rooted by the end of the season, but may be left as they are until spring, and then cut off and be planted out.

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Horticultural Notes.

Downing Mulberry.—The fruit of the Downing Everbearing mulberry is as large as its parent, the wild red mulberry, and it is of a darker color. Hick's Everbearing is of smaller sized fruit, and rather sweeter tasting than the Downing.

Among Wistarias the Chinese is still the best of those that flower in May. The Japanese, Multijuga, has longer racemes, but it makes less display than the other. Later, in June, the native one, frutescens, flowers, and where shade is required it is the best.

Chestnut Growing.—It seems a pity that the efforts of those interested in chestnut growing should be almost entirely given to the production of large sized nuts of foreign sorts. Our native sort is the only sweet chestnut, and improved sorts of this in size are what we want.

Rhododendron.—The common Northern rhododendron — Maximum — is hardy and beautiful, but some of the improved hybrids are much handsomer, while as hardy. But a half shaded place is essential to their welfare; and by mulching and other means the roots must be cool and moist the whole time.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Keeping Eggs in Winter.

One of the safest ways of keeping eggs for the winter is the water-glass process. Waterglass is a liquid, almost as clear as water, and about the consistency of new-run honey. It has no smell, but is somewhat sticky, especially in a low temperature. Its chemical name is silicate of soda. Four articles are wanted, says a writer in the Mark Lane Express—a dish or dishes, waterglass, water and eggs. The dish or vessel may be of any size, to hold from a score to five hundred eggs. It may be of wood, stone, iron, zinc or earthenware. I generally use various-sized casks cut in two, such as are often employed to feed cattle out of. They are cheap and convenient. Scald the dish clean, fill half full of boiling water, and as soon as the hand can be held in it add the waterglass. Measure the water as it is put in, and to twelve parts of water give one of waterglass. If you use twelve pints of water, employ one pint of waterglass; if twelve quarts, one quart; if twelve gallons, one gallon, and in a like proportion either up or down. Stir the liquid well as soon as the waterglass is put in. It mixes readily, and no one could tell it was there. The dish may be kept in the dairy, pantry, cellar or cool room. The eggs may be put in every evening as collected until the vessel is full. All must be under cover or immersed. If the eggs are kept for a few days before putting in, they will still turn out all right, but they must be sound and sweet before they are placed in the liquid.

Another good way, especially where the eggs are intended to be used within three or four months, is to annoint each egg, when freshly laid, with vaseline, all over, and place in crate or basket, either in the common egg compartments, or packed in bran or oats.

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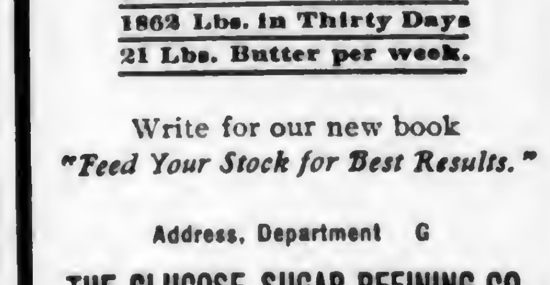
Seasonable Suggestions.

Candling Eggs Commercially.—Mr. Miller Purvis states (Poultry Book) that when candled by professional candlers, all the eggs are assorted. "Those that have broken or cracked shells are opened by girls, who separate the whites from the yolks, placing each in tin cans. When a can is full of either whites or yolks, it is taken to the freezing room and frozen, to remain in that condition until sold. In some cases the whole contents of the eggshell are canned in the same way, frozen, and shipped out of the country, many going in this shape as far north as Alaska. The shells of these eggs are considerably used for making poultry foods. The candled eggs are assorted into 'fancy,' 'strictly fresh,' 'fresh eggs,' 'seconds,' 'spots' and 'rots.' All of these may be graded below what is known in the New York market as 'strictly fresh-laid eggs.' The 'rots' go to the leather makers for finishing; the lower grades are sold to those who will buy them; the rest are sold for what their name implies."

Selection of Males. — Now is the proper time for securing new males for the flocks, and in this matter, we cannot be too careful. The male is half of the flock. James Dryden, of the Utah Experiment Station, says: "No Poultryman, who is in the business for profit, should take the risk of introducing a male to his breeding pens without being assured that he is from an egg-laying strain. Without knowing anything of the ancestry the male is just as liable to be from a 30-egg hen as from a 230-egg hen, and such a male is very liable to wreck the enterprise and raise the cry that there is no money in poultry—because the poultryman has been going it blindly. The Experiment Stations can do a great work for the poultry industry along this line. If every Station in the country would keep several pens of breeding stock and do nothing else but raise cockerels from heavy-laying hens, or 200-egg hens, if enough come up to that standard, and sell them with guaranteed pedigrees to the farmers of the State at reasonable prices, I verily believe it would add millions of dollars to the value of the poultry products of the country every year." We feel like seconding this suggestion. Where to get such males as we want, especially from egg-laying strains, even at big prices, is the great question and unsolved problem. By all means let the Stations take up the work, even at the risk of being accused of going into a commercial venture.



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Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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Published Weekly by The Farmer Co.
P. O. Box 1317
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Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, October 17, 1903

THE Country Gentleman and the New York State Grange are earnestly fighting the scheme for enlarging the Erie Canal and loading the farmers of New York with untold millions of debt for the sole benfit of Buffalo and New York Cities. We hope they will be successful in their fight.

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DRIVING with a farmer recently, we passed a number of corn shocks standing together near the barn. He told us that this was his seed corn, and that shocks consisted of ideal stalks selected all over the field, and that not a stalk in the lot had less than two good ears on it. This looks like proper seed saving, and after getting the ideal plant it is easy to select the ideal ear. But if one selects simply for the ideal ear he may get with it other characteristics that are not desirable. Plant ideal ears from ideal plants, and then remove all tassels from barren stalks around them in the field before the pollen ripens. As much can be done in increasing the corn crop by proper breeding as by the fertilization and cultivation of the soil.

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Dangerous Butter Color.

In buying butter color the dairyman should take care to get an article made from pure annato, and not the common coal tar product which is sold more cheaply on the market, but which is really a poisonous article. The authorities who are charged with the pure food investigations should pay more attention to this matter. We have seen a notice of a fatal accident where a boy took some of this poisonous butter color by mistake for a medicine he had been taking, and died from its effects. Such an article should not, of course, go into a food product.

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The Scarcity of Farm Labor.

The general prosperity of the manufacturers, miners and railroads has had one bad effect on the agriculture of the country. It is hard to get men to accept the lower wages and longer hours of the farm, with the exposure to the weather, when they can get higher wages for shorter hours in the shops and on the railroads. The difficulty is not confined to the Northern States, where the farm labor is generally performed by white men, but it is also reaching many parts of the South, where the negroes have drifted from the farms to the mines and railroad construction, and many have gone North, while those that remain are more and more inclined to congregate around the towns and loaf while getting their food from the pilferings of the negro cooks. A subscriber in Pennsylvania writes to us on this subject and wishes the farm papers to take up the matter of farm labor and agitate it to arouse the farmers to some step that may give relief. We must confess that we are unable to see just how the farm papers are to do much in the way of helping the farmers out of this difficulty. The usual conditions attending the life of the ordinary farm laborer are not attractive to the young men, and the practice of boarding young men in the farmer's family, where white labor is employed, is not attractive to the farmer's family. The best way out of it seems to us to be the building of houses and the employment of married men through the year, giving them some opportunity to make decent homes around them, and thus to relieve the overworked mistress of the farmer's home while increasing the permanency and efficiency of the labor. We make this suggestion in order to draw out the experiences of our readers on this subject of farm labor in various sections of the country and hope that some may be able to make suggestions that may be of value.

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Sowing Wheat.

There was a great prevalence of the Hessian fly in the wheat crop the past season, especially in the South. The fall of 1902 was peculiarly late and frostless, and the fly was active at a late period. The result was an abundance of flies in the spring. While late sowing in the North may have the disadvantage that the plants may not get strong enough to pass the winter safely there is usually no such danger in the country from Central Virginia southward, and we cannot too often repeat the advice not to sow too early. Earliness is, of course, a relative term, for what would be late in Northern Ohio, where Mr. Terry speaks of sowing in September, would be entirely too early southward, and even in Southern Ohio. In most of the Middle States there is frost by the first week in October and wheat sowing should then be hurried along. But going southward there is often no killing frost in Central North Carolina until late in November. In Eastern North Carolina one of the finest crops grown was sown after cotton, the middle of December, and the crop was over 30 bushels per acre. In any section, then, it is safer, so far as the fly is concerned, to defer the sowing until after a good white frost. This gives an abundance of time in most sections for the thorough fining and compacting of the soil with roller and harrow, and the finer the surface soil and the more thoroughly it is packed below after a good plowing early in the season; as in preparing for peas in summer or for corn or tobacco in the spring, the better the chances for a full crop. It is always hard to get late broken land into this condition by seeding time. But this is also a relative term, for where the seeding is late the breaking can be later than where it is early, when it is necessary to break land for this crop, which should seldom be the case where a proper short rotation is practiced.

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"Algretta Boracylic."

Our readers will remember that we recently warned them against the scheme of a certain fellow who signs the name of Mary J. Thompson to his letters, and tells what immense profits he is making in preserving eggs. He is so generous that he wants everyone to know how to do this, and thus shut out his great profits, for he offers to tell anyone how to do it free of charge. It appears that one of our subscribers sent for the process and we have the circular now before us, issued by the Carlsbad Egg Company, otherwise the Union Supply Co., otherwise Mary J. Thompson. This free circular tells in detail how to make a solution of saltpetre, baking soda and "algretta boryacylic," and put it in a barrel that has been filled two-thirds full of water, in which 20 pounds of lime and 8 pounds of salt have been slaked together. Then the barrel is to be filled up with water and the mixture used to cover the eggs in another barrel. Now limed eggs are a well-known article on the market, and always sell for a low figure, not near the price of fresh eggs, since there is no use for them in cooking or eating at all, but only in manufacturing. But the gist of the whole matter is in the notice at the bottom of the circular, which says that you can hardly get the algretta boracylic at your durg store, but the Union Supply Co. will send it to you at $2.50 for four ounces. Of course it is not at the drug store, for there is no such article except in the fertile imagination of this Mary J. Now if any of the readers of the P. F. bite at this transparent bait it will not be the fault of the Editor. Borax is very cheap now, and you can get the four-ounce package for a few cents. But you cannot make any money in buying fresh eggs and preserving them in any way.

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Working the Roads.

We were very much amused in reading the experience of a Kansas farmer in the Iowa Homestead, who had been out working out his road tax on the public highway. He tells candidly that the work he did did not help the road, for the sods thrown out from the sides will only make the more mud next winter. We were surprised, too, to learn that in the hustling West they keep up this antiquated method of spoiling the roads. They do better down in the Tar Heel State. North Carolina is getting noted for good roads. In several counties well macadamized roads are the rule and not the exception, and all over the State instead of sending petty criminals to the penitentiary to be supported they are sentenced to the road gang of the county and made to serve the public there. Grading machines are everywhere, and one road in the upper part of the State, which was formerly known as the "Drummer's Dread," is now a pleasant road to drive over for pleasure. We would suggest to our Kansas friends the organization of county convict gangs to keep up the roads, instead of sending them to the penitentiary for stealing a chicken or two.

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The Oleo Men Starting Again.

Two years ago we attended the meeting of the so-called National Live Stock Association in Chicago, and it took but a little while to find that the whole thing was in the interest of the Chicago packers and oleo manufacturers. The chief effort which was made there was to persuade the cattle men of the West that the passage of the Grout bill would result in a lower price for cattle, and most of them took up with the notion. Secretary Wilson, who was present, told the writer that the statistics of the Department of Agriculture showed that the amount of animal fat made into oleo oil would not amount to 20 cents per head of the animals killed. And yet now that the oleomargarine fraud has been cut down by the Grout law, they are coming out with a statement, ostensibly made by a "prominent Western stockman," that the law has decreased the price of steers from $3 to $5 per head, and he pleads that the cow is protected and the steer discriminated against, and thinks that it would be just to put both sexes on the same footing. In other words, that the oleo law should be repealed so that the packers could flood the market with their imitation butter. This would be putting the sexes on an equal footing, we suppose, in the estimation of the Chicago man who evidently wrote the above and got it printed in an agricultural paper. It is very evident that the fraudulent butter men are starting for a fight against the law, as Hoard's Dairyman suggests. There is not the slightest evidence that the oleo law has depreciated the price of steers, though it certainly has lessened the amount of fraud butter on the market. The farmers of the country who are interested in cows, and who of them are not, should be alive to their interests and be prepared to fight for the law that protects them from fraud. Evidently afraid to fight the law in the courts, it looks as though the oleo men intend to try Congress again. So the farmers should let their Congressmen hear from them as soon as they assemble.

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The Cream of the Bulletins.

New Jersey Agricultural Experiment Station, New Brunswick, N. J. Bulletin No. 164. Field Experiments with Nitrate of Soda on Forage Crops and on Market Garden Crops. By Edward B. Voorhees.

The experiments recorded in this bulletin were begun in 1898 as a study of the usefulness of the various forms of nitrogen. Only the nitrate of soda has been used the past two years, in the first place because it is a standard material and in the form into which all other forms must be changed before plants use it; and in the second place because, in the experiments on fall-seeded forage crops, it was desirable, from the standpoint of economical use, to apply a form of nitrogen that was entirely soluble in water, and thus capable of being brought into immediate contact with the roots of the growing plants, without the necessity of admixture with the soil. The nitrate meets this requirement, and is also in a form to be absorbed without change, another important point, as the vegetative growth of these crops is made before seasonable conditions are favorable for rapid soil activities. The development and growth of the soiling system of feeding dairy cows has made the question of the continuous supply of green forage a very important one, both from the standpoint of the number of crops that may be used for the purpose and of their profitable growth. The argument in favor of soiling versus pasturage is that more stock can be fed from a limited area, and this makes it also important to fertilize or manure heavily, since the larger the yield the smaller the area required. It has been shown in these experiments that the use of the nitrate of soda upon four different forage crops increased the yield from 37.6 per cent. to 96.6 per cent., or in other words, for a specified requirement the area needed was virtually decreased in these proportions. This is an important consideration and one which is not often taken into account in measuring the value of an increased yield. Another point to be considered in the growing of forage crops, and which is of great value from the economic standpoint, is the influence which the fertilizers used may exert upon the edible quality and palatability of the crop, in addition to such influence as may and frequently is exerted in changing and improving chemical composition. In other words, it is shown that not only is the yield increased in the proportions given, but the crops grown with the added nitrate matured more slowly, remained succulent and palatable for a longer period, and thus could be used for a longer time than those grown without the nitrate. This was particularly the case with rye, the earliest of forage crops and one that hardens rapidly after heading. On the plat fertilized with nitrate the crop headed from three to five days later than on the unfertilized one, and on barnyard millet the succulence was maintained several days longer where the nitrate was applied. These considerations are also applicable to market garden crops in a greater degree, because of the greater value of the crops. The nitrate should be applied as soon as spring growth begins, and just before rain, so that it may at once be washed to the roots. To apply it evenly it should be mixed with plaster, bran, sawdust or dry earth. The amounts applied on forage crops were 150 to 160 pounds per acre. Detailed and tabulated statements are given of the applications and results on various forage crops. The returns on the cabbage crops were all profitable, and the most profitable amount to use was found to be 400 pounds per acre, and the quality of the crops was largely increased, as shown in the increased price of the product. It was shown that both the yield and quality of vegetable crops are improved by a liberal supply of available nitrogen. That large quantities of nitrogen, 300 to 400 pounds per acre, are, on the whole, preferable to smaller amounts. That where large quantities of nitrate of soda are used fractional dressings are likely to result in a greater proportionate use of the nitrogen. Three dressings proved, on the whole, more profitable than two. When the growth is satisfactory the third dressing may be withheld.

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CONTENTS

AGRICULTURAL.—What Good Tillage Will do and the Foundation for It. —Experience with the Jackson Grate. 241
Experience with Cow Peas. 242
QUERIES.—Plants for Name.—Peach Borers.—Beggar Weed. 242
Lightning Striking.—Resting Land. —Cow Peas in N. Y.—Growing Osage Orange.—Grass for Name.— Storing Sweet Potato Vines. 243
LIVE STOCK AND DAIRY.—A Convenient Hog Barn.—The Goat Industry. 244
VETERINARY.—Farrowing Troubles. 244
Streaky Cream.—Lumps in Udder.— Garget.—Grease Heel.—Thoropin.— Tapeworm of Dog.—Capped Hock. 245
GARDEN.—The maintenance of Fertility.—Current Comments.—Wool Waste as Fertilizer.—Celery Queries. —Notes from a Carolina Garden. 246
HORTICULTURAL.—The Situation for Peaches.—Sowing Tree and Fruit Seeds.—Horticultural Queries.— Quince Tree Query.—Horticultural Notes. 247
POULTRY.—Keeping Eggs in Winter.— Seasonable Suggestions.—Candling Eggs Commercially.—Selection of Males. 247
Oleo Men Starting Again. 248
EDITORIAL.—Dangerous Butter Color. —The Scarcity of Farm Labor.— Sowing Wheat.—"Algretta Boracylic."—Working the Roads.—The Oleo Men Starting Again. 248
CREAM OF THE BULLETINS. 248
COMMERCIAL. 249
HOME CIRCLE.—Editorial Chat.— Among the Flowers.—Some Ancient Countries. 250
Our Shut-ins.—Washing Made Easy. —Correspondence. 251
OUR EXPERIENCE POOL.—Topic No. 594.—Give Your Experience in the Growing of Winter Squashes and the Best Varieties. 252
SHORT CUTS BY P. F. SUBS.—Stretchin Barbed Wire.—Handy Fruit Gatherer.—Handy Hints.—Window Screens.—Recutting Binder Sections. —Bread Making.—Combined Spacer, Marker and Dibbers.—Second Crop Irish Potatoes.—Cistern Regulator. —House and Farm Hints. 253
MISTAKES, FAILURES AND SUCCESSES.—On Red Clay Soil.—To Prevent Choking.—Eggs in Winter. —Mistake with Alfalfa.—To Prevent Moths.—To Clean Cotton.— Putting Out Fires.—Using the Windfall Apples.—Observations Among Fellow Farmers.—Preventive of LaGrippe.—Another Wood Box.— Oil Killed Trees.—Country Stores. —Ditches.—Keeping Apples and Potatoes.—The Boy on the Farm. 254
POSTAL CARD CORRESPONDENCE. 256

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

October 10, 1903.

Western advices on wheat were stronger, but this market, though firm, showed no important change; exporters had few orders. Oats were dull and ½c. lower under more liberal offerings. Flour was quiet but steadily held. Butter continued dull and weak under excessive supplies. Receipts of Western creamery continued liberal. Holders found it difficult to exceed 20c. for extras, and sales of some lots that would pass inspection were reported at that rate, but the high scoring goods were not generally available below 20½c. Grades below extra were unsettled and irregular under general pressure to sell. The market was overloaded with prints, values of which were very weak. Buyers had no difficulty in satisfying requirements, and surplus lots were cleaned up at concessions of ½@1c. from quotations.

Owing to the increasing use of storage eggs there has been some accumulation of fresh stock during the past few days, and the market for the latter developed a decidedly weaker tone under increased pressure to sell, prices ruling 1c. lower. Offerings of refrigerator stock were more liberal and prices were barely steady. The market for cheese was quiet and barely steady, in sympathy with the recent decline at country points. The feed market was quiet, but supplies were small and prices ruled steady.

WHEAT.—			
No. 2, red, spot and Oct...	78½	@	79
No. 2, Penna. and Del.....	79½	@	80
No. 3, red	73½	@	74
CORN.—			
No. 2, spot and Oct........	50½	@	50¾
No. 2, yellow, track.......	54	@	54½
No. 3	48½	@	48¾
OATS.—			
No. 2, white natural, new..	42	@	42½
No. 2, white clipped.......	43		
LIVE POULTRY.—			
Fowls, hens, per lb.........	16		
Roosters, per lb.	11	@	11½
Spring chickens, per lb. ...	16	@	16½
Spring ducks, per lb.	12		
Old ducks, per lb.	11	@	12
DRESSED POULTRY.— FRESH KILLED.			
Fowls, choice, per lb.	14		
Fowls, average, per lb.....	13	@	13½
Old roosters, per lb.........	9		
Broilers, nearby	14	@	15
Illinois, d. p., heavy, per lb.	14½		
Western, d. p., fancy, per lb.	13	@	14
Western, scalded, fancy, lb.	11	@	12
BUTTER.—			
West. cream'y, 1sts to extra	20	@	20½
Ladle packed	15½	@	16
Prints, nearby, 1st to extra	21		
Prints, West., 1sts to extra.	21		
EGGS.— QUOTATIONS—M, mark; L, loss off.			
Nearby 1sts, ret'bl crates, L	24		
Western 1sts, free cases—L	22	@	22½
No. West., 1sts, free cases, L	23		
So. West., 1sts, free cases, L	21	@	22
So. choice, free cases.....L	20	@	20½
Refrigerator, firsts	20½	@	21
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c. –			
Choice and fancy	12½		
Fair to good	11½	@	12
State, part skims, prime ...	8½	@	10
Domestic Swiss, No. 1 new.	13	@	13½
GREEN FRUITS.—			
Peaches, Mich., per bu. bas..	2.25	@	2.50
N. Y., per 2-bas. crate...	1.50	@	2.00
Grapes—			
N. Y. Concord, 4-lb. bas..	11½	@	13
N. Y. Concord, 8-bas. car.	60	@	75
N. Y. Worden, 4-lb. bas..	10	@	11
Delaware, 4-lb. bas......	17	@	19
Niagara, 4-lb. bas.......	15	@	16
California Tokay, per lb.	6	@	8
Cantaloupes—			
Col. Rocky Ford, crate..	1.50	@	2.00
Cranberries—			
Cape Cod, early Bl., bbl..	6.00	@	6.50
Cape Cod, early Bl., crate	2.00	@	2.25
APPLES AND PEARS.—			
Apples—			
N. Y. fancy red, bbl......	3.00	@	3.50
Maiden Blush, per bbl.	2.75	@	3.25
20-ounce Pippin, per bbl..	2.50	@	2.75
Pears—			
N.Y. Clapp's Favorite, bbl.	2.50	@	3.00
N. Y. Seckel, per bbl.....	4.00	@	6.00
N. Y. Bartlett, per bbl...	4.00	@	5.50
Other varieties, per bbl.....	2.00	@	3.00
POTATOES.—			
White, Pa., choice, per bas..	65	@	68
White, N.Y., choice, per bas.	60	@	63
Fair to good	55	@	58
Sweets, Jersey, prime, bas..	35	@	40
Sweets, Va., pr., yellow, bbl.	1.75	@	2.00
BEANS AND PEAS.—			
Beans, marrows, H. P., bu..	2.05		
Pea Beans, H. P., 1902, bu.	2.25		
Imported marrows, per bu..	2.50		
Imported pea beans, per bu.	2.10		
COTTON.—			
Cotton, per cwt.	9.60		
FEED.—			
Bran, bulk, winter, per ton.	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00
HAY AND STRAW.—			
Timothy, new, No. 1.......	16.00	@	16.50
Timothy, mixed, new	13.50	@	14.00
Straw, new, straight rye...	18.50	@	19.00
Oat	9.50	@	10.00
Wheat	9.50	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady for best grades.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4¼	@	4½
Common steers	3¾	@	4

Veal calves steady for extra grades.

Extra calves	7½	@	8
Fair to good	6	@	7
Poor and common	4½	@	5½
Grassers	3	@	4

Hogs steady for good weights and quality.

Fat hogs, Pa., Del. & Md..	6½	@	8¼
Fat hogs, Western	8½	@	9

Sheep and lambs steady.

Sheep, extra	4¼	@	4½
Sheep, good	3¾	@	4
Sheep, medium	3	@	3½
Sheep, common	2	@	2½
Lambs	4	@	6

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NEW YORK MARKET REVIEW.

October 10, 1903.

The market for spot wheat was strong and prices advanced. Exporters had but few orders, and the business was chiefly on old contracts. The trade in corn was small and inactive, and although prices were higher it was to a great extent in sympathy with the strength in wheat. The demand for spot oats was moderately active and prices ½c. higher. Hay was in only moderate demand, owing to threatened rainy weather, and prices remained stationary. Straw was firm with choice grades of long rye commanding firm prices. Decided improvement in trade resulted from the recent decline in extra creamery and orders of good size were placed on the market. Reports of the general conditions of the cheese market are somewhat conflicting, some holders claiming the tone steady, while others say it is weak. Trade is dull and it is very easy to buy at quotations. For all fancy apples there was a good demand and firm prices were obtained. Pears were nearly all poor in quality and trade suffered in consequence. Grapes sold when fancy, but most offerings were more or less unattractive, heading off large sales. Supply of peaches was lower than usual, but owing to poor quality prices dropped a trifle.

WHEAT.—			
No. 2, red	82⅛		
No. 1, No. Duluth, new, f.o.b.	90⅝		
CORN.—			
No. 2, yellow	54½		
No. 2, white	53¼		
OATS.—			
No. 2	41½		
Standard white	41¾		
Track white	41½	@	45½
HAY AND STRAW.—			
Timothy, pr., l'rg bales, cwt.	90		
Timothy, No. 1	80	@	85
Timothy, No. 2	75	@	77½
Straw, long rye, per cwt...	75	@	1.00
BUTTER.—			
Extra creamery	20½		
Extra factory	13½	@	15½
State dairy	15	@	19
CHEESE.—			
State, f. c., small, fancy...	12¼		
Good to prime	11	@	12
Large colored, fancy	12		
EGGS.— QUOTATIONS AT MARK.			
State & Pa., fancy	25	@	26
State & Pa., seconds	20	@	24
Western extras	25		
Refrigerator	20	@	20½
LIVE POULTRY.—			
Spring chickens, nearby, lb.	12½		
Southern, per lb.	13		
Fowls, per lb.	13		
Roosters, per lb.	8		
Turkeys, per lb.	11	@	12
Ducks, West., per pair.....	60	@	75
DRESSED POULTRY.—			
Turkeys, spring, d. p., lb...	15	@	18
Scalded, per lb..........	12	@	15
Old, mixed, per lb.	15	@	16
Broilers—			
Phila., fancy, large, lb...	20	@	22
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	12		
West., d. p., av. best, lb..	13		
Scalded, av. best, per lb..	13	@	14
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl.......	2.00	@	2.75
Spitzenberger, per bbl ..	2.00	@	3.00
Crab, per bbl.	2.00	@	5.00
Greening, per bbl.	1.75	@	2.25
Fall Pippin, per bbl.	1.75	@	2.25
Maiden Blush, per bbl....	1.75	@	2.50
Gravenstein, per bbl.	2.25	@	3.25
Twenty-ounce, per bbl. ..	1.75	@	2.50
Ordinary, all kinds, bbl..	50	@	1.50
Baldwin, per bbl.	1.75	@	2.00
Wealthy, per bbl.	2.50	@	3.50
Pears—			
Common, per bbl.	1.00	@	2.00
Bartlett, State, per bbl..	2.00	@	5.00
Beurre d'Anjou, per bbl..	1.50	@	2.25
Louise Bonne, per bbl....	1.50	@	2.50
Sheldon, per bbl.	2.00	@	3.00
Seckel, per bbl.	3.00	@	6.00
Bartlett, per keg	1.25	@	1.50
Duchess, per bbl.	2.00	@	2.75
Kieffer, per bbl.	1.50	@	2.50
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, 4-lb. bas..	12	@	18
N. Y., Concord, 4-lb. bas-.	9	@	12
Up-river, car., Delaware..	1.00	@	1.25
Up-river, carrier, Niagara	75	@	1.00
Up-river, carrier, Concord	60	@	75
Up-river, carrier, Martha.	50		
Wine grapes, black, ton..	40.00	@	45.00
Peaches—			
Up-river, pony bas. crate.	1.00	@	1.25
per basket	50	@	1.12
Pine Island, per basket...	50	@	1.12
West. Maryland, carrier..	1.75	@	2.50
VEGETABLES.—			
Brussels sprouts, per qt....	6	@	12
Beets, 100 bunches........	1.25	@	1.50
Carrots, per bbl.	1.00	@	1.25
Cabbage, White Danish, ton.	12.00	@	14.00
Domestic, per ton.......	9.00	@	12.00
Tomatoes—			
Jersey, per crate	25	@	75
Delaware, per bas.	40		
String Beans—			
West. N.Y., bu. bas., green	75	@	1.00
Bu. bas., wax	75	@	1.25
Up-river, bu.	75	@	1.25
Norfolk, wax, basket	1.00	@	1.50
Norfolk, green basket....	1.00	@	1.25
L. I. and Jersey, bag.....	50	@	1.00
Squash, Hubbard, per bbl...	1.00		
Cucumbers—			
Shelter Island, per bbl...	3.00	@	4.00
State & West., per 1,000.	2.00	@	4.00
Cucumber pickles, per 1,000	2.00	@	4.00
Cauliflower	1.00	@	2.50
Celery, fancy, per doz......	10	@	45
Eggplants, Jersey, per bbl..	2.00	@	3.00
Green corn, per 100.......	50	@	1.75
Lettuce, Boston, per doz...	30	@	50
State and West., per doz.	25	@	45
Lima beans, potato, per bag	2.50	@	3.50
Flat, per bag	1.50	@	2.50
Peppers, Jersey, bbls.......	75	@	1.75

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Miss Ida Richards, Prairie Grove, Ark., writes: "About three years ago I read an article in P. F. by Dr. Haynes, telling that plantain is good for headache. Unfortunately I lost it and do not remember how he told us to prepare the seed. If this article could be republished I am sure it would be conferring a lasting favor upon many P. F. readers." If Dr. Haynes will answer this question we shall be glad to give space.

* * * * * * * *

In same mail comes this request from another P. F. reader: "Would Dr. Haynes kindly mention again an herb or root that he once named as a cure for rabies? One girl of fourteen, in our town, died after suffering four days from the bite of a mad dog. One man in the town below has been bitten and is in Chicago for treatment. Another boy, in Wausau, has been bitten. Would also like to hear again of Dr. Hayne's remedy for cancer." Although we have always been skeptical concerning mad dog scares, there seems to be something in them this season, at least in Wisconsin and Kansas, and if Dr. Haynes, or anyone else, can give any authentic information we shall be glad to hear it.

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Among the Flowers.

"Subscriber," Burgettstown, Pa., writes: Will you please tell me how to care for date palms after they have started to grow?"

We have never grown a date palm, but suppose the general directions for palm culture are applicable. Better than to use our own words, we quote from an article on palm culture in Home and Flowers:

"All palms enjoy a moist, even temperature, and amateur florists should try to regulate their living rooms to suit the needs of the plant as nearly as possible. An average temperature of about 60 or 65 degrees will suit them better than any other, although, as everyone knows, who has had any experience with palms, they will stand a much higher or much lower temperature than the one named. In living rooms heated by coal or wood, the air is apt to be too hot and dry for the welfare of the plants. This may be remedied to a large extent by putting a basin of water on the stove and keeping it well replenished. * * * * A palm should generally be re-potted every third year. In re-potting let the soil become nearly dry. Place the palm of your left hand over the soil in the pot, the stem of the plant being between your middle and index fingers. Invert the plant, tap the sides of the pot sharply with the knuckles of your right hand, and the plant will generally come out in a satisfactory manner? Work away some of the loose, outer soil, but do not disturb the roots any more than you can help. Get the plant into the new dish as soon as possible that the roots be not long exposed to the air. Choose the receptacle of suitable size, give good drainage and fresh new soil. Set the plant in firmly, water well and keep from the bright light for a week or two. By adding fertilizer when the old earth has become exhausted, one may keep a palm in its original pot much longer than would be supposed. However, I would aim to re-pot a specimen after the third year of its forced diet."

Another writer in same journal says:

"One item of greatest importance in successful palm culture is drainage. Have it as nearly perfect as possible. The better the drainage the better your chances of success; the poorer the drainage, the more your prospects of failure. Too much water about the roots causes decay to a greater or less extent, and unhealthfulness at the roots is pretty sure to make itself known by brown-tipped foliage. Every pot seven or eight inches deep should have at least one and one-half inches of drainage, and over this should be placed a layer of sphagnum moss to prevent the soil from being washed down and filling the crevices. For plants large enough for seven or eight-inch pots, I would use only loam with enough sharp sand to prevent it from becoming hard and heavy. For such a plant I would use one tablespoonful of bone meal, mixing it well into the soil. Do not keep your palms in the sunshine. Two or three times a week shower them thoroughly, using a spray pump or tin or brass sprayer. The foliage must be made wet. For mealy bug and scale, the palm's two greatest foes, use fir-tree-oil soap suds. Be sure and soak your pots before using."

We would emphasize this last statement, as we recently lost a beautiful fern by using a pot just as it came from the store. We are much interested in chrysanthemums just now, thanks to our good H. C. sister who sent us the fine specimens in the spring. By the time this is in print, hints concerning them will be nearly, or quite, out of season. We are told that August is the best time for taking them up and putting in pots; this is before they are budded, but if this has been neglected, later must answer. Several days before removal, cut about them with a spade, and water well before taking up. This season, in Wisconsin, nature is attending to the watering business with alarming prodigality. Let us have a few letters on "My Experience with 'Mums," please. And now about roses. Should such as the Duchess de Brabant be left out doors during a Northern winter?

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Some Ancient Countries.

MRS. GEO. W. KLINE.

A most energetic and splendid civilization was at one time found along the River Euphrates, but now, with the Tigris, is the boundary of a land of decay. Vast floods of people once traversed the plains, building glorious empires and founding Babylon, Nineveh and other grand old cities. At this time, however, they are little more than mounds of clay, among which dirty Arabs are delving for building material for modern houses. Near the ruins of Babylon may be seen a large mound, which one would recognize as the Tower of Babel.

Ah, yes, and over to your right you see a cave at the mouth of which the Tigris roars and foams, and in the distance you hear the sound of an Arab water wheel, or a Dervish saying his prayers. This land is called the birthplace of races.

Striking across the country one enters Egypt, the land where the Pharaohs were once rulers and where the children of Israel were held in bondage. The chief wealth of Egypt lies in the Nile; without it the Egyptian would be without food, drink or clothing. The inhabitants say that if Mohammed had drank of the water of the Nile he would not have gone to Paradise. To them she seems a living, moving thing filled with blessings for her people.

Some time in June the waters begin to rise, and when the water line rises to about its highest notch, the people are breathless with interest and anxiety, already seeming to see her muddy waters depositing their magic loam upon the parched land and fruits and grains covering what, a few months before, looked very barren. As a general rule the people are honest, lazy, merry and patient. The men wear vari-colored trousers and a kind of shirt. The women wear a black or dark blue cotton veil, trousers and a short waistcoat which is worn in winter. They marry when about twelve years of age, and some are very beautiful until about eighteen or twenty years of age, but after that they rapidly fade and grow old. The houses of these people are generally made of mud. The wife has a separate sleeping apartment, which is very dirty. She rises when the sun rises, and goes out to eat her breakfast of onions, carrots, pickles or a coarse kind of bread, with her husband and children. Immediately after breakfast her husband goes to his work, and if she has none she will likely go along with him, leaving the children to shift for themselves. If she has an infant she will deposit it on a pile of rubbish or in the mud where the sun and flies may pester it all day. School days are few to the girls, but the boys attend regularly. They sit upon the ground and rock their bodies to and fro, shouting at the top of their voices, and in this way they are supposed to strengthen their memories. They study the Koran and a very little arithmetic. Often the scholars know as much as the teacher, but he conceals his ignorance very easily, if he can repeat the Koran. Even if he is blind, he can be a teacher. We now will travel up the Nile. In a short time we reach a village with beautiful palm and gum trees surrounding it. If you choose to stop with the sheik of the village he will, perhaps, make it very pleasant and comfortable for you, and ask you politely about your comings and goings. But adieu to the village of palms and mud huts; we are now reaching the home of the Copt, a dreary, lonesome land, where early Christians hid themselves in caves by choice and necessity. Presently we leave the land of the Egyptians and enter the land of the Ethiopian. Oh yes, you say, "That is those horrid black people that would scare you into a nightmare," but I must tell you that the true Ethiopian of years ago was classed as highly civilized, and called a "blameless race," and rivalled Egypt in her vast temples and fine buildings. But we find these people now living in the same wretched huts as the Egyptians. Traveling south, we find a degraded, bloodthirsty and savage tribe. They are of powerful build and so swift of foot that they seldom employ beasts for riding. They live on wild honey and meat and sleep in caves, some of these caves being large enough to shelter a whole village. Some of them live on snakes, roots and carcasses of elephants slain by the Abyssinian hunters. Before going out to fight their enemies they consult the birds, whose chirpings they say they understand.

We now pass on up the Nile, reaching a very fertile region. Here we notice an island called Philae, and the natives believe it to be the dwelling place of the God that blesses the Nile and causes it to overflow its banks and enrich the soil. As a proof you may see a temple built for him there. The larger part of the work done in the fields is done by the women and children. Polygamy is practiced here, and the husband pays his father-in-law for his wife, the price of six camels.

Our next excursion will be on the shores of Lake Victoria Nyanza. This region swarms with savage life. One tribe is said to talk like yelping dogs, which may be on account of the lip being perforated to admit a piece of copper or bead, which is held in place by a head like a nail. In this part of the country animal life reaches the height of its development. Hippopotami and crocodiles frequent the banks of the lakes, and herds of elephants come down to the shores to drink. Fish also abound in these waters. Who has not heard of the Queen of Sheba, who visited Solomon in all his glory? This is the land we will visit next. The northern part of Abyssinia is said to have been ruled by this Queen of Sheba. It's history, however, both past and present, is little more than a series of wars. The Abyssinians are a nation of warriors, and fighting is their greatest enjoyment. Although the rulers have tried to introduce European modes of warfare, they have been unsuccessful, and when the signal is given by the drum they rush pell-mell upon the enemy. Here, too, polygamy is practiced. Every man marries as many wives as he can support, and gives to each a certain number of strings of beads, cows and a separate house. Each wife in turn prepares his meals. They are also very superstitious, and believe that many of their people assume the brute form, and some trustworthy natives have said that they have killed hyenas with earrings in their ears, they being females who had forgotten to take them out when they changed their form. The natives to this day tell a story of a family whose mother was suddenly missing. In vain they searched for her. An old Jew often passed by the house riding a donkey, and as often as they would pass the animal would stretch his long neck and ears toward the house and bray with all the strength of his good lungs. A light flashed upon the son's mind. The Jew was seized and made to confess and change the woman into her former self. The transformation was almost finished when the son, unable to contain his anger, killed the Jew with his spear, and so, to her grave, did the poor woman carry with her a hoof instead of a human foot. This was called a degrading mark of the "Boudda."

Such are the customs of the people of the once ruling powers of the world and of the land of our ancestors. We can readily see the vast difference between the civilization of our beloved country and of the land of which we know so little.

Marshall Co., Ind.

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Our Shut-ins.

Henry M. Dugger, Hettick, Ill., writes: *Dear Mrs. Melville*: We were not expecting to hear from you through the P. F., but we thank you many times for answering that way. In regard to the bracket saw, I never saw one and could not say much about it. I don't think a knitting machine would be very profitable in this country, as no one has any yarn, and it is out of date here; people wear cotton goods.

I borrowed ten dollars of my uncle and put it into goods and notions that the farmer uses almost every day, and I have a fine trade now. All my friends and visitors like to buy from me, as I sell a little cheaper than merchants do. I have patent medicines and my goods in telescopes under my bed, and seldom a stranger that calls gets away without looking at my notions, and they most all buy something. My idea in selling these goods is to make enough money to pay back the borrowed ten dollars and buy a silver-plating outfit. People have promised me tableware to plate if I can get the money to buy an outfit. The outfit complete, ready to plate, will cost $15. I think by a little aid I can work the plater and make the plating business a success. It is an honest, pleasant, legitimate and exceedingly profitable business, if it is not a humbug. If anyone has had experience with this outfit please write me.

My nerves have improved some, and I can be lifted into a reclining wheel chair. I can stay in it two or three hours, but can't sit up straight.

[We welcome you to our Circle, Henry, and heartily congratulate you on your pluck and ambition. We are so glad that you have neither given up to adverse circumstances nor grown morbid; you seem bound to conquer discouragements, and we believe you will win. You can grow to a useful and noble manhood in a wheel chair as well as elsewhere. Go bravely on and the all-wise Father will bless and keep you. Let us hear from you often. If any of our readers can give him information as regards his proposed venture, we trust they will hasten to do so at once.—Ed.]

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Washing Made Easy.

BELL L. DUNCAN.

Soak clothes in luke-warm water. Have boiler full of hot or boiling water; cut up soap and put in boiler; wring clothes out of tub and put in another tub, pour in the boiling-hot soap and water on them. Be sure the water is boiling. Now take a stout clothes stick and stir the clothes thoroughly so that the boiling suds will reach every portion, cover up, let stand a few minutes, uncover and stir again. Wring out and rinse in the usual manner. You will be surprised at the result of this method.

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Correspondence.

Mrs. Ida L. B. Goss, Taunton, Mass., writes: I am a shut-in, too, but the Heavenly Father has given me many kind, devoted friends who do so much, so much to lighten the burdens and cheer the dark days. Yet there are, you know, many ways for money where there is an invalid, and so, for a time I could think of no way to procure some warm clothing for our shut-in sister South. But I do not readily give up conquered by a few difficulties, and in this case I have finally made out to obtain what I have, with my head, worked for. Now, as I know others will be apt to send some things to Miss Sheppard that she may not longer suffer, I will mention the contents of my box, then there will be no duplicating. I inquired some time ago of her about her being able to get things made. She replied that her mother is quite capable if only she can procure material. Considering her misfortune I decided it would be better to let her mother fit her things. Now for the list: Between fifteen and twenty yards of pin stripe outing flannel for night dresses; twelve to fifteen yards white outing for underclothes, wool petticoat, wool material for house dress and kimona, knit circular shawl, lawn house dress, several pairs hose, soap, writing paper, envelopes, pens, pencils, thread, and a few other odds and ends. Since I learn she can crochet I think I will add crochet cottons, and if the sisters would order edgings of her it would help her earn something to get more material, and possibly enough to supply some of her little necessities. Perhaps I may add a yard or two of lawn so that she can hemstitch handkerchiefs for sale.

[This letter needs no comment. The blessing of giving will, we think, be about evenly divided between these two shut-ins. All parties addressing Miss Sheppard will enclose postage. Let us make all the sunshine we can. "We shall not pass this way again." —Ed.]

Mrs. J. B. Johnston, New Wilmington, Pa., writes: We housekeepers in the country are too liable to go in the ruts or paths our mothers and grandmothers trod. When we wake up to the fact that "the world do move," and that if we expect to keep in the procession we must be moving, too, it will be better for us. Society requires more of us than it did of our grandmothers, and so does literature; so does religion. If we follow the weary round of duties in the kitchen that our grandmothers followed, we have little time or strength to give to anything else. How can we lighten our work and still accomplish as much, is a question for all of us. Yesterday we took a drive through as pretty a section as I know of. These Western Pennsylvania hills and valleys are now in their glory. Mile after mile of well tilled farms. Nearly every farm has a spring of clear, cold water; some are in the ravine, some on the hillside. On very many we passed, the spring was far above the house; but in only one home was this delightful arrangement of nature taken advantage of. The water was piped from the spring to the water heater beside the kitchen stove, to the kitchen sink, to the wash house, to the cellar, to the bath room and closet, as well as to the hog pen and barn. There were many farms with just as good springs, suitable for piping to the house, where they were "getting along" as grandmother did. There are thousands of fine springs all through the hilly parts of our great country that can be taken into our houses and barns with very little expense. And oh, what a pleasure it is to have just plenty of water without going out in the rain, or snow, or dark for it. On our farm we have to be satisfied with a windmill over a very good well. It is nearly as good as a spring, but not quite, for the pipes will sometimes freeze. I wish I could persuade everyone of the thousands of readers of the P. F. to do away with the ceaseless round of carrying buckets of water in from spring or well and then carrying them out to the gutter. Make it flow into your kitchens and bath rooms through spigots, and flow out through the sewer. And then you can have the satisfaction of knowing that you have solved one very great problem on the farm, viz., the water supply. Everyone can do it; all that is needed is to make the beginning. Husband and wife must work together, and plan together, in this, as well as in many other farm operations, and success awaits you.

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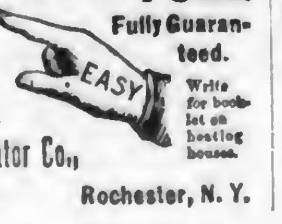

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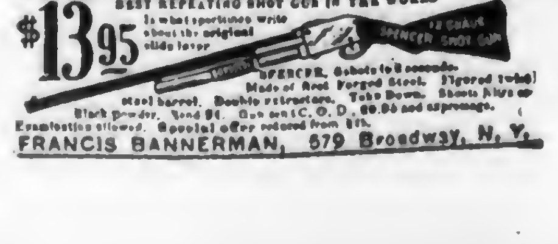
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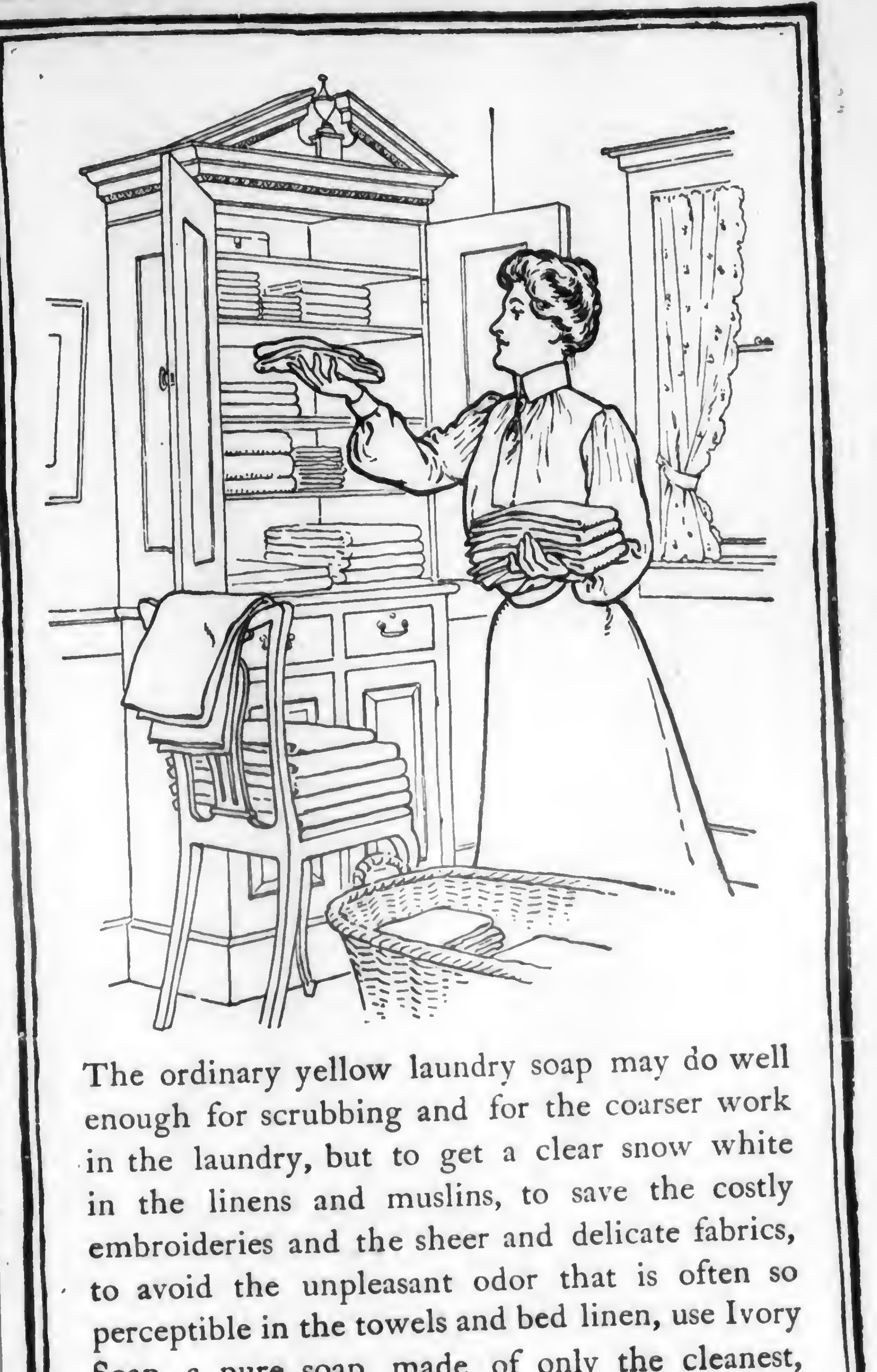

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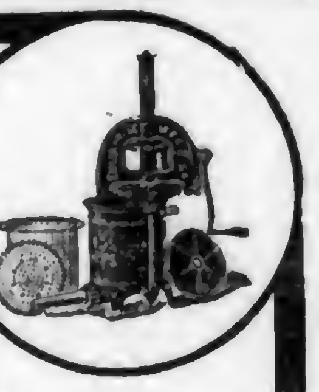

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Topic No. 596, Oct. 31.—*Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?*

Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 594.—Give Your Experience in the Growing of Winter Squashes and the Best Varieties.

William C. Aiken, 2807 Hoover St., Los Angeles, Cal.—I have always planned to raise winter squashes, both for the table and stock, and plenty of them. Some years I have failed to have much of a surplus crop, through my not knowing how to raise them in this semi-arid climate. I have never had any success in growing them among corn, as we always did in the Eastern States, nor have I yet discovered any good reason why we should not be able to do so. I always have good crops by selecting a piece of my best land, preparing it carefully and fertilizing liberally, say, twenty 2-horse loads of manure to the acre. I find it pays me to run over my ground in alternate directions with harrow, cultivator and roller at least six or eight times. One season, as an experiment, I divided my field in two parts, harrowing and rolling one part only once, but getting it in as good condition as the average field. The other half was worked by my usual method six or eight times, though both parts were of the same fertility and manured the same, the "over-worked" part yielded one-third more in weight, and much larger and more uniform specimens throughout the field. This convinced me that tillage was the secret of success in squash growing, and that my ground could not be worked too much. I check the land eight feet apart, running a small plow both ways; this for irrigating if necessary. I drop at least three seeds at the intersections, thinning to two strong plants when they begin to run. For kitchen use I always plant Boston Marrow and the true Warted Hubbard. For the stock I find nothing better than Maule's Mammoth Chili, and a large green squash that I call Jumbo. I cultivate the land both ways as long as a team can get through without interfering with the vines. I never irrigate if I cannot get through with the cultivator afterwards, as the water would do more injury than none, without after cultivation. Squash bugs are never very troublesome in this climate, but I have always found tobacco dust, insect powder, or even dry slaked lime or dry wood ashes dusted over the vines would almost always keep them in subjection.

Myron C. Safford, Salem, N. Y.—Having been successful in producing good crops of winter squashes, I give my experience. Like others of the family, they like a heavy sod and seed bed, but sandy or gravelly loam suits them well. Some of my best crops have been grown on a heavy black loam. The soil must be made rich for success. Plow deep and thoroughly, and broadcast all the barnyard manure you can conveniently work into the land with a disk harrow. Mark off six feet each way, and drop a double handful of hen manure in each hill, working it into the soil with a potato hook. Do not make a big hole and put a pile of manure under the hill, for if dry weather follows, the plants will dry out and get stunted. We have no doubt that some good commercial fertilizer will do as well, but we have not tried it. Plant at least half a dozen seeds in each hill, and several days later plant another hill alongside so that if the first planting fails or is destroyed, it may draw the bugs from the first hill, and can be removed if that one succeeds. If we do not have seed enough we use pumpkin seed for the second hill. Do not plant until weather is warm and settled, for if stunted, they fall an easy prey to the bugs or fail to flourish. Tobacco dust is the best preventive of the striped bug, but soot is good, and working among them often repels the bugs and invigorates the plants. Hand picking is the only thing for the big stink bug. We have had success in planting among potatoes, omitting every third hill on every third row and planting these with squashes. It gives the plants plenty of room to run among the potatoes, and they do not seem to injure them in the least. When the first frost kills the leaves, gather the squashes and place in piles covered with the vines until freezing weather threatens. Then store in a dry, cool room. Hubbard is the standard for quality, but they are not satisfactory unless matured. American Turban, though listed as a fall squash, has proved a good keeper, of excellent quality and a very satisfactory cropper. Pike's Peak and Faxon have done well, and Fordhook is not to be left out.

E. L. Cleveland, Delavan, N. Y.—I sent, the past spring, to Wm. Henry Maule for seed, and bought the Faxon squash, the first time I ever tried them. When I planted them I put night soil mixed with garden loam in the hills, and I have the best squash vines I ever had. Have cooked one, and find it the finest squash I ever ate. I have not seen a black squash bug this year. Have killed all I could find for several years past.

Mrs. B. M. Smith, Greene, N. Y.—Late in spring, after the corn and potatoes are planted, we plow a small piece of loamy land near at hand and thoroughly cultivate and pulverize it. The hills are made three feet apart, and a pailful of well rotted hog manure is placed in each hill, and a foot of earth thrown over it. Do not have the hills raised, as many fail in this way, for they soon dry up. Plant a generous supply of Hubbard or Marblehead seed, so that when the bugs are gone they can be thinned out to four plants in a hill. Place square boxes covered with mosquito netting over the hills, and hoe two or three times, and if the bugs molest them they are destroyed every morning by hand picking. Gather before touched by frost and place in a warm room, not in a cellar, and they will keep until after the holidays. We have never had any difficulty in getting forty marketable squashes from half a dozen hills, and if not used in the family they sell readily for three cents a pound.

J. S. Barb, Spokane, O.—I raise squashes on a small scale. Have good, mellow ground and dig a hole two feet or more square and a foot or two deep. Put in a good forkful of well rotted manure, and mix with the soil, and cover this with soil, on which plant the seed. Early June is a good time, but they may be planted later if frost holds off late. I have grown them successfully planted the 22d of June. Leave two to four vines in a hill four to seven feet apart. It is a good plan to nip the tops once or more. The Hubbard is as good as any. Pike's Peak and Sibley are good. For a small squash the Perfect Gem is hard to beat, and so is the Fordhook, and the Cashaw is also good.

Jas. McFetridge, Polk, Pa.—I have grown squashes for market for some years, and find the Hubbard is the best to keep and sell. I plow the land and harrow several times before planting. Then run a plow twice in a furrow and make hills six feet apart and fill with well rotted barnyard manure within a few inches of the surface, and cover with soil to level, and plant five or six seeds in a hill. Run through them two or three times a week with the cultivator until the vines are too large. As soon as there are two or three nice squashes on a vine I keep the rest cut off as soon as they set, as it will strengthen those left, and they will be much larger than if all are left on. I have squashes now that will weigh from nineteen to twenty pounds, and am selling them at two cents a pound. There is a large profit in growing them at this price.

W. L. Sims, Newton, Iowa.—We prefer the yellow, thick-meated Boston Marrow and the Pike's Peak or Sibley varieties. The land should be well fertilized and well prepared. Plant about June 1st and cultivate until vines cover the ground. Squashes grown on upland usually keep better than those grown on lowland. In gathering cut them from the vines with a piece of stem left on, and turn them over so that the bottom side will dry. Handle carefully and avoid bruising. Put them away soon after picking, as they will not keep well if left in piles long. Keep in a place where there is an even temperature of 45 to 50 degrees.

F. A. Cowell, Lakebay, Wash.—Winter squashes are not good here. Though we have usually three months of drought in summer, the squashes are full of water. Have tried Hubbard and Essex Hybrid, but never grew a dry one. Fordhook does fairly well, especially Fordhook Bush. I have grown a Japanese squash, with a shell like a gourd, but much thicker, which was an excellent keeper, and made the best of "pumpkin" pies, but I got it mixed so badly I let it go, though a neighbor planted some of the seeds, and the product looks like the original long, striped watermelons.

Mrs. C. Burk, Richmond, Kan.—Any ordinarily good soil will do, and a rather sandy soil is better than a clay one. It should be thoroughly prepared and marked out eight feet each way, with the hill at the check. Dig a hole for the hill and put in it half a spadeful of well rotted manure worked into the soil, and cover with soil. Plant six to twelve seeds in a hill. I drop them on the surface and punch them in with my fingers an inch and cover. Stir the soil as soon as the plants appear, with the cultivator, and hoe the soil well up under the leaves. Spray with a weak mixture of Paris green and water, or dust with air-slacked lime or wood ashes. Hoe often and add a little fertilizer. Thin to three plants in a hill after danger of bugs is over. Do not plant until weather is warm and settled. I find the old standard Hubbard and Butman the best.

Mrs. H. Walter Wallace, Newport, Ky.—Well manured or highly fertile soil is essential, not new or virgin soil. When the vines begin to run they should be covered with a shovel or two of soil at two or three different joints. Each joint thus covered will put out roots, and in case the squash borer attacks the main root the vine is not destroyed. I usually plant from 10th to 20th of June in rows eight by twelve feet. After the vines have set the desired amount of fruit, clip off the end of the vine. The Hubbard and Fordhook are my choice. They are more prolific and better keepers in this section than any I have tried. The Fordhook is an early squash and a good keeper. The Hubbard is very hard-shelled, and that is the only fault that can be found with it.

J. R. Johnston, New Wilmington, Pa.—The essentials for squash growing are a soil rich in humus and a fight against the striped bugs. With these essentials it is easy to grow the squashes. I select land that was worked and well manured the year before. After it is plowed and well harrowed six times, haul stable manure on it and put in piles ten feet apart each way, two or three wheelbarrow loads in a pile. When the weather is warm, plant three hills of squashes around each pile of manure, close as possible to the manure. Get boxes ten or twelve inches square and knock out top and bottom and cover with mosquito netting, and place over each hill. Draw the earth around the boxes and you can defy the bugs. When the plants push against the netting, take the boxes off and store for another season. Cultivate clean, and when the vines are four or five feet long commence to scatter the manure piles. Put a good forkful on the vines at several places. Each joint will send a root into the rich soil and the vines will grow in a way to astonish the natives. This is the only way I can grow winter squashes, and I seldom fail to raise a profitable crop. My favorite is the old Hubbard. It is the best market variety here. I have grown the Mammoth Chili to weigh 75 pounds, but do not care for them except for show, as they are coarse, watery and tasteless.

E. E. Lawrence, Spafford, N. Y.—We have tried everything in the squash line as introduced and find nothing better for market than the old Hubbard, though for home use we prefer the Butman, as it is of better quality than others. We use the best land available, and after fitting and marking, put a good shovelful of well rotted manure to each hill. Good seed is important, and we use that of Gregory, the squash specialist. We watch for the striped bugs and dust with plaster as often as needed. With rich soil and good culture they soon grow away from the bugs, and the richer the soil the better, for it is useless to plant squashes in poor soil.

Mrs. Maggie Ritchie, Macedonia, Ohio.—There is quite a knack in raising squashes, as there is in cucumbers. We have taken pains to make rich hills, and plant the seed right, and when they came up the squash bug was waiting for them, and, of course, got the most of them. People have laughed at me for planting in the moon, but all the same I have good squashes. One year we had a few rows of potatoes near the house, and having no place handy for the squashes, and there being some potato hills missing, when the Twins came along in June I planted my Hubbard squash seed. People said that I had planted too late, and would not get a squash, but the squashes grew, and not to vines, but to squashes. Out of a ten-cent package of seed we had 75 nice squashes and a number of unripe ones, and there was not a bug to trouble the vines. Have tried many kinds, but prefer the hard-shell Hubbard. They keep well and are good to eat. We planted pumpkins in the Twins this year and never had better.

W. H. Wheeler, Greenleaf, Ore.—Up to about three years ago I tested a great many varieties of winter squashes, but an extra large strain of the old Hubbard, introduced by a house at Portland, Ore., went so far ahead of anything else of high quality that I am raising no other winter squash, and intend to substitute them for pumpkins, which I have planted to some extent for stock feed. I may not get as many wagon loads per acre, but I believe I get more food value, and they keep until late in spring.

C. C. Beals, Russiaville, Ind.—We simply plant the seed in the corn field or some other rich place where they will be cultivated, about corn planting time, and usually have no trouble with bugs when planted among corn. The bugs do not know where to look for them. If grown in a patch by themselves they should be planted seven or eight feet apart each way and three or four seeds to a hill. After frost cuts the vines they are gathered and stored in a dry place where they will not freeze. The Hubbard is a good sort.

Mrs. Emma B. Durston, R 1, New Windsor, Ill.—Out of the many varieties of winter squashes a ripe Hubbard is about perfection. We have raised Sibley, or Pike's Peak, and the famous Fordhook. Both are very productive and good keepers, especially the latter. Have been successful except in one or two seasons, when the borers killed the vines. Have not learned how to prevent them. To drive the striped bugs off I have found air-slaked lime and ashes, with just enough kerosene to make it smell strong, sprinkled over and around the young plants very effective. Gather the squashes before freezing and store in a dry place.

SUMMARY.

There seems to have been quite a number of people who succeed in growing the winter squashes, while none of them but Mrs. Ritchie says anything about planting in the moon or under favor of the Twins. We have not the slightest doubt that Mrs. Ritchie gives the best attention to the preparation of the soil and the manuring of the plants, and though she attributes her success to things that have nothing whatever to do with it, if it makes her any happier to watch the signs of the zodiac we hope she will keep on doing so, for it is, at least, a harmless notion. But unless the land is well prepared, manured and cultivated, all the imaginary beings in the almanac will not make a crop of anything on this earth. We plead entire ignorance of the Twins, and could not for the life of us tell anyone when they are around. But if Mrs. R. will tell us next spring when to expect them we will try to plant some of our cucumbers at the proper time, and then some when the Twins are favorable, and if there is any difference will be glad to tell what it is. We do not grow the winter squashes, for we can grow sweet potatoes much more cheaply and abundantly, and for any purpose for which the squashes are used we think the sweet potatoes are better. Then we can have the sweet potatoes the entire year through, with possibly a month intermission between crops. Where the sweet potato does not thrive nor gather sweetness, as it does in the South, the winter squash comes in very handily. The striped bugs that are of so much bother from Virginia north, very seldom put in an appearance south of Virginia. Formerly, when we had to fight them, the best thing we ever tried was raw bone dust scattered over the hills as soon as they are seen cracking the soil. If washed off, renew the dusting, and it will not only drive the bugs, but will help the plants. With regard to the borer, we have found that one of the best checks is to gather all the dead vines in the fall, roots and all, and burn them to destroy the winter cocoons. The New York Station found that if they are buried six inches deep they will not come out, and they advise the plowing of the squash ground six inches deep in the spring and not replowing it if plowed in the fall, and thus diminishing the borers. We would do both.

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BY PRACTICAL FARMER SUBS.

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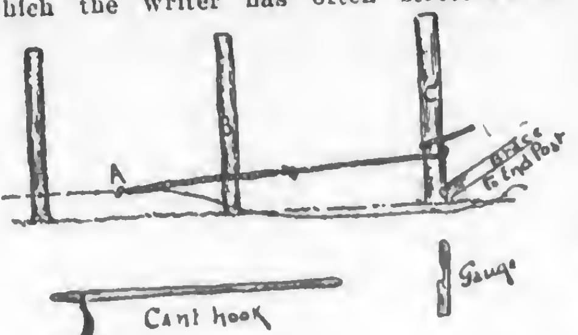
Stretching Barbed Wire. — Set the posts firmly, and the end posts especially so. Begin at one end post; attach the end of wire to end post and unreel, guarding against kinks and placing the wire close to posts as you go. On reaching the other end of fence stretch wire, fasten to end post and staple to posts on the way back, where another bundle of wire is taken and process repeated until all wires are stretched. A stretching apparatus is here given, with which the writer has often stretched 80 rods, and believes 160 rods, or even a mile, could be stretched at once. In consists of a chain with clamps at A, to clutch the wire, and rope at other end to take a hitch around post, C, to hold all slack drawn by cant hook, or lever, with grab hook, which is hooked in the chain and the lever used against post B. Having drawn the wire as tight as advisable, hold while one man draws the short piece up by hand and fastens to the end post. Loosen chain and remove clamps and you are ready to drive staples.



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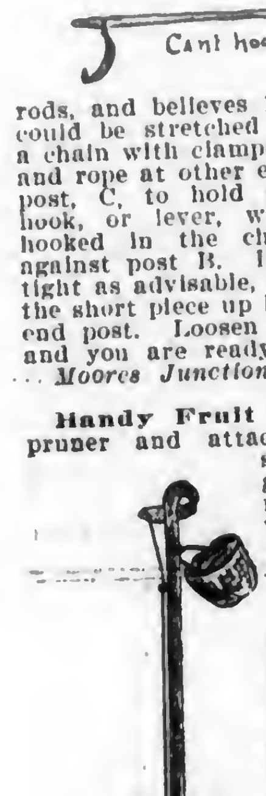
Handy Fruit Gatherer.—Take a tree pruner and attach a horse muzzle with staple and you have a fruit gatherer with which you may take the fruit from the tallest tree with safety.

C. L. MOSS.
Hammonton, N. J.



Handy Hints. — We have found raw linseed oil for galls or like sores on horses the best remedy of the many we have tried. For poison ivy, wash in as hot water as can be borne, and often. If you can wash in strong soap and water immediately after touching it, you may prevent being poisoned; use soft soap made from lye and grease. In boiling eggs, take from the boiling water and plunge immediately in cold water a few seconds; the shell can be removed more easily. When you make pies, if there is crust left that you do not wish to bake into tart crusts, roll into a ball, rub lard over it and lay it in lard jar for next baking, not too long, however. If loaves or parts of loaves of bread get dry or mouldy, trim off the mould, steam well, but do not cut until cold; it freshens it. A good cake recipe is as follows: One cup sugar, shortening the size of an egg, one egg if you choose, one cup fresh buttermilk with half a teaspoonful saleratus in it, two cups flour with one heaping teaspoonful of baking powder in it. If used as a loaf cake season with lemon, or use raisins, with cinnamon or nutmeg. Can bake in layers with filling.

S. Dayton, N. Y. MRS. CLARK OAKES.

Window Screens.—I rip the frame out of ⅞-inch plank, making the pieces 1¾ inches wide; then I saw them the full length of window, saw three cross-pieces, butt sides against end pieces and nail with 10-penny nails; put on wire and moulding. Then I hinge them at top and have hook to fasten at bottom on inside. When you want to wash windows unhook and drop the screen out.

Hillsboro, Ill. W. H. WILEY.

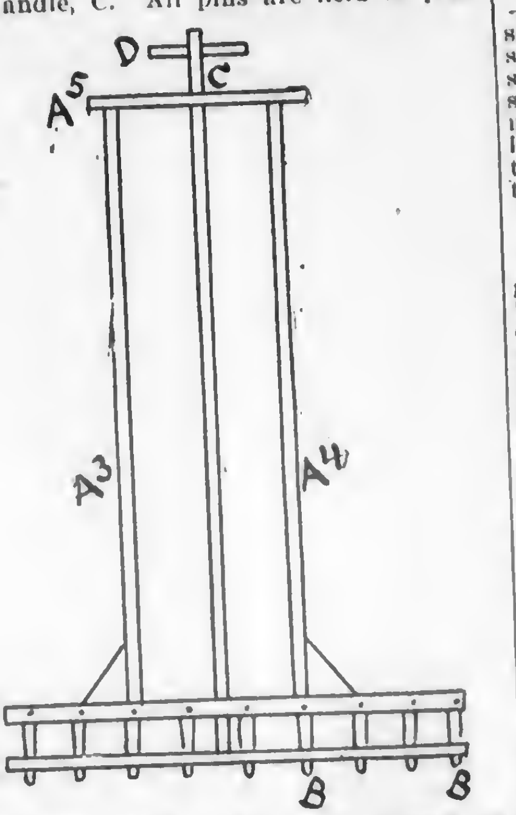
Recutting Binder Sections. — Some time since I saw in Short Cuts, directions how to save expense when the binder sickle was worn out, by buying new sections instead of a new sickle. I have a better way than the above. When the sections become too smooth to cut well, place sickle in good position on bench and recut sections with a three-cornered file. Have recut the same sections several times. You can do it in two or three hours, and it will cut just as well as a new knife. It is not necessary that the teeth be as small and fine as they were at first, if they are much coarser they will do the work just as well.

J. H. WILCOX.
Nokomis, Ala.

Bread Making.—I have recently been trying to learn the "new way" of making bread; that is, without setting a sponge, and have learned a few things that may be of value to some other beginner. I take two cakes of yeast and soak an hour in luke-warm water; then I put five quarts of sifted flour in my mixing pan, add a teaspoonful of salt, two tablespoonfuls of sugar, one tablespoonful of shortening, then add enough warm water to make a dough just stiff enough to knead. In the morning it should be three times its size. Knead and shape into loaves. An article I once read said to "shape into loaves with as little handling as possible," but I find it better to knead it quite a little. Let rise and start to bake in a moderate oven, and bring the heat up gradually. I sometimes set it in the morning and get it baked by evening. Find it needs to rise eight or ten hours. I always think when my bread "pops," that is, when air bubbles form, in kneading into loaves, it is sure to be good.

MRS. E. S. WEBSTER.
Box 90, Hutchinson, Kan.

Combined Spacer, Marker and Dibbers.—For transplanting small seedlings we use the device here illustrated. A1, 2, 3, 4 and 5 are made of ⅝x1-inch stuff, hardwood. A1 and 2 are 3 feet long; A3 and 4 are 4 feet long; A5 is 1 foot 6 inches long. B, the pins, or dibbers, are nine in number, three to the foot; are of ⅝ stuff 3 inches long. Depth of hole regulated by space at top of handle, C. All pins are held in position by small nails. A2 works loosely on B; by pressing down on D and lifting on A5 holds mellow earth in position and leaves holes smooth. C made of same material as the rest of frame, only dressed a shade smaller, to work in ½x¾-inch holes. Fine for transplanting from hotbed to cold frame. Used this season in transplanting 40,000 tomato seedlings.



J. W. GRIFFIN.
Carrollton, Ky.

Second Crop Irish Potatoes.—I have had fair success raising a fall crop of potatoes by the following plan: I use small potatoes from first crop for seed, and I never cut them. I spread the seed potatoes in a shed, and cover with four inches of straw. Wet well and allow to lie for two weeks, or until they are sprouted well. Have the ground fresh plowed and plant at once. If the potatoes are sprouted well, and the ground is fairly damp, or if I get a good rain in a few days, I have no difficulty in securing a good stand and a full crop, but such potatoes will not sprout well in a dry soil. The great point is to secure vigorous sprouting before planting, as that will almost insure a good crop, while the want of it is equally as sure to result in failure. Between 1st and 10th of August is best time to plant.

ENOS C. PITTMAN.
Poindexter, Ark.

Cistern Regulator.—When your cistern gets full, you want no more water to run into it through the conducting pipe. The overflow is diverted by means of an arrangement of this kind: Have the tinsmith, when putting up the eave-trough and pipes, tap the main pipe by cutting out a piece from the side shaped like the scoop used in feed stores, only about 8 inches in length. Make the incision about 12 inches above the intake pipe. Hinge it to the pipe by means of a spring strap. Ordinarily leave it closed. When no more water is needed draw the upper end down and the surplus will run away nicely.

JAMES SKELTON.
Niagara, Ont.

House and Farm Hints.—A cocoanut shell divided into halves makes a good drinking cup to leave at the spring or well. When working in field where cattle are grazing, place a bunch of catnip over your water keg or jug: this, in most cases, prevents them from pulling the stopper out. When picking berries strap your bucket around your waist and then pick with both hands. If plowshare or point become dull, remedy this by breaking or shattering small pieces off with a hammer.

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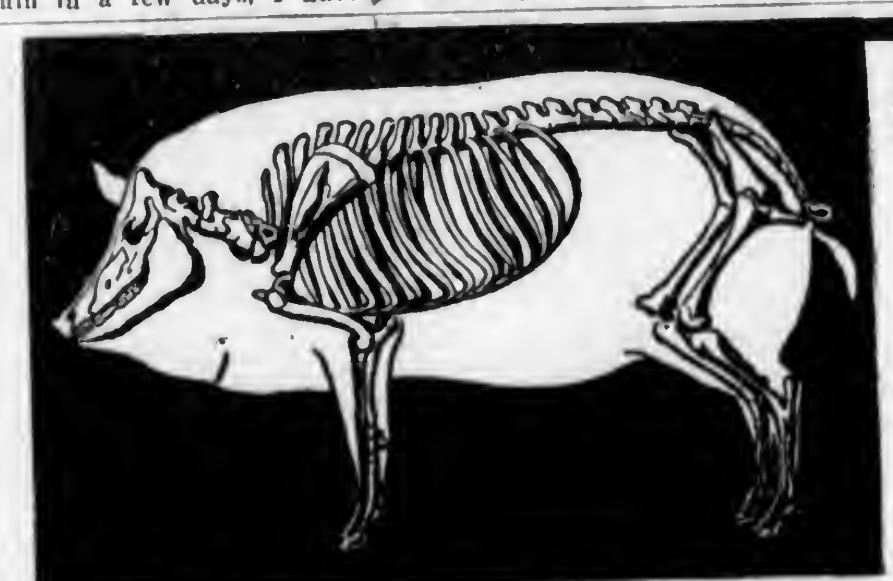

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

On Red Clay Soil.—One of the most difficult things the farmer on the red clay soil of this section has to contend with is the exhaustion of humus by constant cropping to cotton. It has become a hard matter to catch the ground in just the right condition to plow. If too wet, it turns up in clods that are almost impossible to pulverize, and it takes years to rid the land of clods. On the other hand, if it is too dry, it is not only very hard plowing, but the soil turns up equally lumpy. We find here that it pays to go over the ground with a 20-inch disk harrow, thoroughly cutting the soil to a depth of 3 or 4 inches when the ground is in just the right order. This prevents the evaporation of the soil moisture, and even if it is several weeks before we get to plow, it turns fine and nice. M. E. Bemis.
Decatur, Ga.

To Prevent Choking.—As apples were plentiful last season and our cows had access to them at all times, we had a couple of cases of "apple in the throat;" the animals were in a very dangerous condition and in the last stages. A heaping teaspoonful of gunpowder was given and in 15 minutes bloat and gases were gone and the cow stopped choking. Thus by the application of this very simple remedy the cow was saved.

Eggs in Winter.—During moulting time our hens were fed ample quantities of the oily native sunflower seed, oil-meal, etc., with the result that moulting was over with before the cold storms came on, and with a little care the biddies were soon ready to go to laying again, and they continued at it all winter.

Mistake with Alfalfa.—My alfalfa was sown on a heavy loam underlaid by a hard, wet subsoil. As a result it was winter-killed and the roots broken off by the heaving of the ground. The land was in splendid condition when sown, and the alfalfa made a good growth, but failed on account of an impervious under soil. G. H. Townsend.
West Berne, N. Y.

To Prevent Moths.—I have not had a moth in my woolen clothing for 20 years, so far as I am aware, unless it has been in some garment hanging up, and I have used no remedy but newspapers. I line the bottom of my trunk with newspapers and place a layer occasionally between the clothing, separating the nicer from the commoner goods, the underwear from the outer, etc. I then cover the top at the last with newspapers and the moths have given me no trouble. The newspapers are cheaper than moth balls, do not have the offensive odor, and I believe are more effective. J. F. Dosier.
La Grange, N. C.

To Clean Cotton. — The way to clean cotton in a wet time when it is run to grass, is to use a harrow. A disk harrow will do, and is perhaps the best, but don't set the disks to throw much dirt. A 2-horse harrow run across the rows is good, also; it pulls lots of grass out and holds it back for the hoe hands. Then run close around the cotton rows and by this means you can more easily clean a cotton crop out. But never, if you can help it, let the grass get the start of you. Let all try this plan another year, and I am sure they will find it a great help.

Putting Out Fires.—I will tell of a sure and easy way to put out small fires in the woods or sedge fields. If in the woods, take either a hoe or a plow, according to circumstances, and run around the outside fires far enough away not to get your horse or yourself burned. Plow several furrows around, or if in the woods where you cannot plow, take the hoe and pull back or push back towards the fire all leaves and scrape well down to the ground. Let some go ahead doing this and some follow behind putting out any fires that may have started again. Another is to take a tank wagon with hose attachment and go around the sedge field, sprinkling it down well. Or get a large, heavy wagon sheet, wet it thoroughly and run over the fires, it will help in putting them out. Salt is good also Try all these if it becomes necessary. H. A. Cooley.
Sugar Valley, Ga.

Using the Windfall Apples.—We used to make the mistake of letting the windfall apples go to waste under the trees where they fell. This is an injury to the grass, and the rotten apples sour the ground. Under the new order of things we convert some of the surplus apples into cider vinegar, which the grocer is glad to pay us a good price for because pure cider vinegar is a scarce article. Some of them we cook into sauce and can. These canned apples come handy the following spring when apples and other fruits are scarce. We have learned to dry them so they look like evaporated apples, by spreading them rather thin and putting them out in the heat of the day. We prevent worms from making their appearance by heating the dried apples in the oven before putting them away in paper sacks tied tightly. Cider made from sweet apples is best for making apple and pear butter, we find, because but little sugar is needed to sweeten the butter. While the sweet cider is fresh, right from the mill, we heat and seal a quantity. It will remain sweet and good as long as desired; makes a fine drink and comes handy for mince meat later on. One of our neighbors picks up many down apples to feed his hogs. How the hogs relish them; and they will clean up a lot of them in a short time. It is claimed that the apples give the hogs an appetite for more solid food, prevent constipation and aid digestion when fed in moderate quantities. Fannie M. Wood.
Falmouth, Ind.

Observations Among Fellow Farmers.—I find many farmers in my locality who will not spend a dollar for an agricultural journal, yet are always ready to request a subscriber to ask for information on agricultural and horticultural topics. A prominent farmer in this locality whom I asked time after time to become a subscriber, but who would not as much as pay 25 cents for three months' subscription, comes to me from time to time requesting me to ask for information through the P. F. Another, who is regarded by his neighbors as a model farmer, claims that the men who write for papers "know no more about farming than we do," and the men who write about cow peas "never planted any." In manuring his orchard he piles the manure high around the trunk of the tree, plows his corn so deep that the cultivator shanks are covered with roots, and says they need to be cut off. There are men in my immediate neighborhood who are discouraging people in clover culture, "because a mare that is fed clover will not bring a colt." G. Winkler.
Southwest City, Mo.

Preventive of LaGrippe. — Several times during the winter we have placed a pan of coals in the cellar and sprinkled with sulphur. We have not had the grippe for eight years, while our neighbors have it more or less every winter. It is very seldom that any of our family are sick at all. We are of the opinion that very many diseases breed in foul cellars.

Another Wood Box.—We have a wood box which is a great saver of steps. It opens from the woodshed through the kitchen wall, two feet from the floor, which saves bending for wood. It is out of the way and can be filled from the outside by the men folks without littering the kitchen.

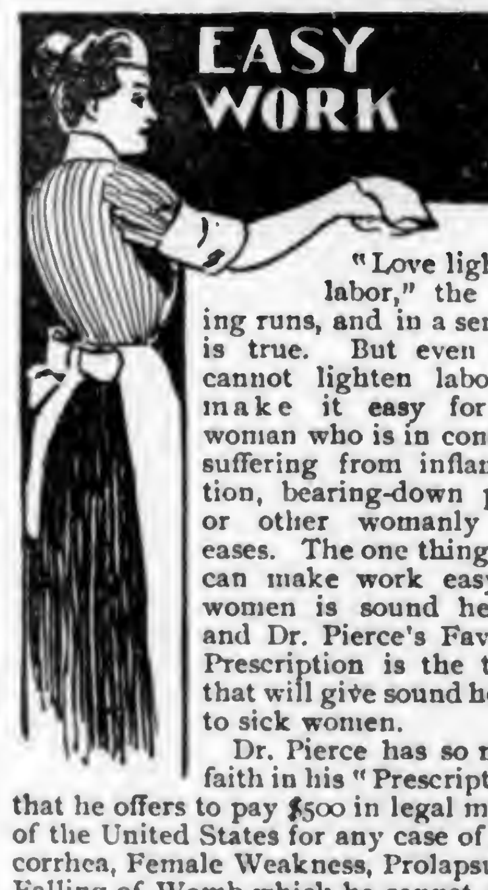
Oil Killed Trees.—Three years ago the tent caterpillar stripped our maples. Thinking to save our cherries, I put cotton around the trees and poured oil on the cotton. We had cherries that year, but none since, as the trees all died. We think the oil killed them. M. A. Brown.
R 14, Groton, N. Y.

Country Stores.—The system of trading at country stores has been a great detriment to the production of a good article. The fact that no distinction is made between the different grades of produce at country stores is in itself sufficient reason why farmers should put their goods only on markets where an especially fine article will be duly appreciated. If no distinction is made between a good and a poor quality of produce, where is the incentive for improvement along that line? Think of the degenerating tendency of such a course. By striving to produce the best so as to get top prices, the farmer is being brought to a higher plane of living and effort. Jos. Kerr.
Alexander, Ark.

Ditches.—One of the most common causes of crop failure, where there is a failure of crops in this section, is the lack of proper ditches to carry off surface water. In many places where there is a good outlet, some land owners will not dig, and will hinder a ditch as long as possible, thereby damaging farms above them far more than the ditch would cost. Why can't people with common interests remember the Golden Rule, and by helping others help themselves?

Keeping Apples and Potatoes.—Let me tell P. F. readers how we keep apples and potatoes perfectly solid and so they will retain the natural flavor all winter. We have no cellar, but use a room in the chamber without even a stovepipe through it. We leave potatoes in a pit in the field as late as we dare on account of freezing; and apples in barrels in the barn the same. Then we take large newspapers and line barrels bottom and sides, fill with fruit and set in room as stated. Throw an old carpet over and enjoy them all winter. Robt. Mate.
Chesaning, Mich.

The Boy on the Farm.—A big success is assured by taking an interest in that boy on the farm. Give him something for his very own; tell him what you are going to do and why you do it; in a word, make him feel that he is somebody, by taking an interest in all his affairs. Boys today are different from what they used to be, and the old routine of "all work and no play; all fork and no hay," will drive that boy from the farm and from the home he loves, with no ambition to be anybody, and cause his future conduct to bring your old age in sorrow and regret to the grave. This applies to girls, also. Make your home attractive, it will be the best act you ever did. Neglect and you have made the worst mistake and the boy a dismal failure. Edw. Webster.
Cynthiana, Ky.



"Love lightens labor," the saying runs, and in a sense it is true. But even love cannot lighten labor or make it easy for the woman who is in constant suffering from inflammation, bearing-down pains or other womanly diseases. The one thing that can make work easy for women is sound health, and Dr. Pierce's Favorite Prescription is the thing that will give sound health to sick women.

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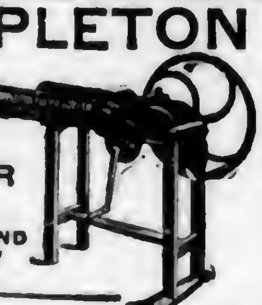

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EDITED BY GEO. T. PETTIT.

To be issued Dec. 1st, 1903. The successes are all right; but the failures, who likes to tell of them? "Snap Shots" does it, though, and they are told by those who made them. The successes and failures of the farmer are important as guides to those who follow the same calling, showing them how to succeed and how to avoid mistakes. The contributions are all from practical farmers and their wives, from all over the country, and are therefore applicable everywhere. 320 pages.

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Outside of these clubs the subscription price of The Practical Farmer will be one dollar per year. Any person sending us 50 cents will receive the paper for six months only. Our single subscription price is $1 per annum, no more, no less.

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Inverness is in Citrus Co., Fla., in the western part of the State. Many oranges were grown here previous to the big freeze, and are still grown to some extent. Sweet potatoes and most vegetables do well here. There is much timber here. A large sawmill is running close to the town. People seem fairly prosperous. Irish potatoes, 35c.; sweet potatoes, 25c. per peck; milk, 10c. per quart.; eggs, 20c. per doz.; butter, 30c. per lb. A. J. McDONALD.
Inverness, Fla., Oct. 6, 1903.

Located in Monroe Co., 4 miles west of Clarington. Land is very hilly, but fertile. Principal crops are wheat and oats, which were very heavy; hay crop very light, on account of dry weather in spring; potatoes not so good as last year; fruit very scarce, and rain also. Farm help plentiful. Prices as follows: Horses, from $100 to $200 each; cattle, 3 to 4c.; hogs, 6c.; sheep, 3½c.; chickens, 10c.; butter, 20c. per lb.; eggs, 20c. per doz.; potatoes, 50c.; corn, 65c.; wheat, 75c. per bu. Success to the P. F. and its readers. FRED J. FANKHAUSER.
Clarington, O., Oct. 5, 1903.

Located in Tioga Co., about 10 miles north of Wellsboro, the county seat. Present season rather unfavorable for farming. Weather very dry at planting time, followed by long rain, continued since at frequenet intervals. The county is becoming well supplied with telephones and mail delivery routes. Yield of crops about as follows: Hay, 80 per cent.; oats, 100 per cent.; potatoes, 75 per cent.; corn, 50 per cent.; buckwheat, 75 per cent.; apples, 50 per cent. I take the P. F. and like it very much. G. H. STEVENS.
R 1, Middlebury Centre, Pa., Oct. 7, 1903.

Located in the great truck county of Gloucester, 33 miles south of Philadelphia. Level, sandy soil, warm, early and capable of being profitably made and kept fertile in the highest degree. Season has been cold and very wet; three to five showery days per week, the average, after spring drought was broken. Blight and rot of tomatoes, sweet potatoes, melons, cucumbers, etc., more destructive than ever known before. Potatoes fair crop; nearly all other crops poor to fair. Canning tomatoes, $10 per ton; apples, $1.50; sweets, $2.50 per bbl. ERNEST WYKES.
Forest Grove, N. J., Oct. 6, 1903.

Corn about all in shock; about an average crop; some wheat is sowed, but not many farmers are quite ready to sow at this writing; from the outlook a good deal of wheat will be put out this fall. A great deal of rye is being sown for winter cover crop and pasture; some to plow under next spring. Potatoes not all harvested yet; the crop is good; no peaches nor winter apples in this section. There has been a drought for several weeks in this section; the ground has not been wet for weeks; water for stock is getting scarce; pasture and all green vegetation is drying up. Prices: Potatoes, 75c.; oats, 50c.; corn, 75c. per bu.; butter, 25c. per lb.; eggs, 20c. per doz.; chickens, 12c. per lb. E. R. I. FREELAND.
Barrackville, W. Va., Oct. 5, 1903.

Located 2 miles east of Oklahoma City, which is still rapidly building up. New colleges, churches and business buildings making it foremost city in the Southwest. Land is from $150 to $200 per acre in the suburbs, and quarter sections sell from $5,000 to $6,000 that sold three years ago for $1,500. Early cotton was ruined by hail, as were most of the peaches, but later planting of cotton made a splendid showing; good crop of wheat, except in this immediate vicinity, where it was damagad by hail; Kafir corn and Indian corn good. Fruit was high priced, the best peaches selling at $1.50 per bu.; good crop of sweet potatoes at $1 per bu.; apples, 75c.; pears, $2; crab apples, $2 per bu.; butter, 25c. per lb.; eggs, 15c. per doz.; hogs, horses and cattle good price; farm hands, $1 per day. MRS. L. D. MAYS.
R 5, Oklahoma City, Okla., Oct. 3, 1903.

Located in Southwestern York Co., Pa., near Mason and Dixon line. Land sells for $60 to $80 per acre. We have fine weather for the season, and fall seeding is being rapidly finished. Good portion of small grain threshed and yield about 20 bushels per acre; corn crop is heavy and lots to cut, since hands are scarce at $1 per day. Late sweet corn nice, and ready for canning factory. No frost yet. Intensive farming increasing. Apples plentiful; hay plentiful and sells for $10 to $12; straw, $8 per ton; wheat, 76c.; corn, 60c.; rye, 50c.; oats, 40c. per bu.; butter, 20c. per lb.; eggs, 22c. per doz.; potatoes plentiful and rotting; sell at 40c. per bu.; lard, 10c.; fat hogs, 7½c.; chickens, 10c.; calves, 6c.; beef cattle, 4c. per lb.; pigs 4 weeks old, $1.50; horses, $100 to $150; cows, $30 to $50 each; mules, $300 per pair. H. B. SHUTT.
Porter's Siding, Pa., Oct. 7, 1903.

Robertson Co., Tenn., 9 miles north of Springfield, the county seat. About all of the tobacco is cut and housed in good condition, although the later plantings suffered for want of rain. There will be more corn made in this county this year than for the past three years. Wheat threshed, yielding about half a crop, of poor quality; not much fruit; have had plenty of blackberries; few peaches; a fair crop of apples. Needing rain badly to prepare land for wheat sowing. A good deal of clover hay was saved, more than for several years. Have telephones and R. F. D. ERNEST L. EDDINGS.
R 6, Springfield, Tenn., Oct. 5, 1903.

Located in a village of 200 inhabitants 4 miles from Catawba River, in eastern part of Lincoln Co. Have fine water, good health and plenty to eat. Land productive when well tilled. Crops short this season; corn one-half crop; cotton one-half to three-quarters; wheat nearly a failure; some did not thresh. Cotton picking progressing finely. Weather clear and cool. Little plowing done for wheat. Fruit half a crop. Fall gardens doing well. Hogs becoming more plentiful; cattle doing finely; horses in fine condition. P. F. read by a good many, and they are beginning to appreciate the great value of it. Prices: Wheat, 90c.; corn, 60c.; onions, 75c.; potatoes, 75c.; apples, 50c.; pears, $1 per bbl.; butter, 15c. per lb.; eggs, 15c. per doz.; meat, 12 to 15c.; lard, 12c.; beef, 5 to 6c.; mutton, 10c. per lb.; horses, $50 to $150; cows, $20 to $40 each; beans, $2; peas, $1 per bu. A. M. PROCTOR.
Denver, N. C., Oct. 5, 1903.

Located in Monroe Co., 13 miles north of the county seat, Monroe; 35 miles southwest of Detroit; nearest shipping point, Carleton, 3½ miles distant. Land is a good clay loam, selling at from $50 to $75 per acre. The season has been cold and wet; crops looking fairly well; hay a good crop and secured in fine condition; wheat good; oats light; corn not up to the average, ripens unevenly and but little cut; onions light, on account of maggots; clover seed not filled well, mostly cut for second crop of hay; beans late; buckwheat well filled; late potatoes rotting; apple crop light; tomatoes not ripening. This is quite a dairying country and the industry is growing; also lots of hogs raised. Prices: Wheat, 80c.; oats, 37c.; corn, 52c. per bu.; tomatoes, $6; sugar beets, $5 per ton; butter, 20c. per lb.; eggs, 18c. per doz.; potatoes, 50c. per bu.; hay, $8 to $10 per ton; pork, alive, $5.25 to $5.50 per cwt. Success to P. F. MRS. WESLEY C. RICHARDS.
R. F. D., Carleton, Mich., Oct. 5, 1903.

Located in Jefferson Co., 34 miles east of Knoxville. Average crop of corn; been having dry weather for the last six weeks; pastures burned up. Have rural mail delivery. Prices: Wheat, 82c.; rye, 60c.; oats, 45c.; potatoes, 50c. per bu.; eggs, 18c. per doz.; steers, 3c.; hogs, 5c.; butter, 12c.; chickens, 11c. per lb.; cows, $20 to $40; mules, $50 to $150; horses, $50 to $150 per head. Success to the P. F. H. HORNER.
Talbott, Tenn., Oct. 5, 1903.

Located 6 miles northwest of Wellsboro, the county seat of Tioga Co. Rainy season; farmers are at last getting their haying done. We are having pleasant days this fall, but frosty nights. Crops have been fair. Prices: Hay, $12 per ton; wheat, 85c.; corn, 55c.; oats, 45c. per bu.; butter, 22c.; cheese, 15c. per lb.; eggs, 16c. per doz.; cows, $30 to $50 per head; sheep, $4.50 to $5.60 per cwt.; hogs, 6c.; poultry, 12c. per lb., live weight. Help scarce. R. F. D. coming into use. MRS. JOHN HASKER.
Marsh Creek, Pa., Oct. 7, 1903.

Eastern New York. Large hay and oats crop; corn poor and badly frosted; potatoes good, but many rotten; pastures good; pears a failure; apples scarce. Summer very rainy; fall fair and fine for work, but enough rain. Much corn to cut and rye to sow. Much interest in dairying of late, and paying well. Farm help very scarce. We have to pay $1.25 per cwt. for middlings; $1.15 for bran; $1.38 for feed; rye is 60c.; corn, 70c.; oats, 50c.; potatoes, 40c. per bu.; hay, $10; rye straw, $9 per ton; butter, 20 to 25c. per lb.; eggs, 25c. per doz.; cows, $30 to $40; horses, $25 to $250 each; hogs, 4¾c.; pigs, 5¾c.; lambs, 5c.; chickens, 10c. per lb. Nuts scarce. Insurance by farmers' local mutual a success. Telephones and free mail delivery being introduced. MYRON C. SAFFORD.
Salem, N. Y., Oct. 6, 1903.

Situated in Humboldt Co., Northern California. This is the famous redwood belt of the Pacific coast. Principal occupations are lumbering and dairying. Eel River Valley is one of the most productive dairy sections of the world. Country highly prosperous in spite of an unusual drought; crops very good considering. Redwood timber land is selling at $100 per acre; dairy land from $200 to $500 per acre; butter, 31c. per lb. Threshing season just finished. Peas, $35; oat hay, $15; oats, 14; barley, $25 per ton; very little wheat raised. Hired help exceedingly scarce; farm and dairy hands are receiving from $35 to $40 a month; mill hands, sawyers, etc., from $35 to $100 per month with board; eggs, 28c. per doz. E. E. KEOHAN.
Waddington, Cal., Oct. 1, 1903.

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The Commonwealth Press
OLIVER B. WOOD, Printer and Stationer.
No. 50 Foster Street.
Worcester, Mass. June 11, 1903.

I have a Wilkes Pacing Gelding that became lame in the off forward foot. Soreness was just above the hoof, with a tendency to throw out a ringbone. I tried three veterinaries and the various advertised remedies which were on the market, but without effecting a cure. Also fired and blistered him once. My attention was called to your remedy by a friend who urged me to use it. After one month's trial, and the use of one and one-half bottles, we hitched the horse up and drove him and he has never taken a lame step since. Have now been driving him six months on the road, have speeded him on the track and macadam road and he is as sound as a bullet. It is certainly a wonderful remedy and I feel that I cannot say too much in its praise.
Wishing you every success, I am, Yours respectfully,
O. B. Wood.

J. H. DAY
Dayton, Wash., Sept. 15, 1903.
Troy Chemical Co.
Troy, N. Y.
Gentlemen:—Herewith please find enclosed N. Y. Exchange for which please send me at once 1 bot. "Save-the-Horse"
"Save-the-Horse" is certainly accomplishing wonderful results in this case. The bog is all gone and the Thoroughpin is fast disappearing.
Very truly yours J. H. Day

Ripon, Wis., July 29, 1903.
My horse had ringbone on right hind leg. Used blisters for nearly one year and had him fired, but to no effect other than to leave a bad scar. In April I purchased a bottle of your "Save-the-Horse" and by the time I used half of the bottle it had completely cured the lameness and is reducing the bone.
Yours respectfully, T. B. Dakin

The fire iron is uncertain and invariably aggravates the disease or injury; blistering is less effective than the fire iron, and both necessitate the laying up of the horse from four weeks to several months. Mercurial and poisonous compounds produce irrepairable injuries.
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THE PRACTICAL FARMER.

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Depth of First Cultivation for Corn and Potatoes.

L. M. W. writes the P. F. that he does not agree with me about working corn as deeply the first time as I advised in an article recently. I presume I said, let the cultivator teeth go down deep the first time, or for the first ten days or so, clear to the bottom of the plowed furrow if possible. Give the horses something to do. Tear up the ground thoroughly. It will do no harm to the roots then, practically, and it will help nature about making you a large crop. After that let the culture be shallow, so as not to injure the roots. Now, friend W. says there isn't a horse in his county that can draw a 5-hoe cultivator, with the teeth going 8 inches deep, which is the depth he plows for corn. And he does not want land worked that deep anyway; it should not be worked more than three-quarters as deep as it is plowed; the bottom 2 inches, when it is plowed 8 inches deep, should be left just as turned; that is, loose and full of air-spaces. This, he says, helps the drainage and holds air in the soil. Where he lives there are always some heavy rains during the cultivating season, and if the land is made fine clear to the subsoil it will become too compact for the future good of the crop. The rains settle it too solidly, with the little humus they have in their soils. Our friend uses a jointer, or small plow attached to the beam ahead of the large one. This turns a little earth into the furrow, which he says holds up the main furrow slice, thus making an open place for drainage and air. Well, if the cultivator teeth go 6 inches deep lots of good will be done. Advice must be of a general character usually, and there are few farmers in the corn sections, probably, who plow more than 6 inches deep for corn. However, I believe W. is right in plowing 8 inches deep. I am sure a deep soil will stand dry weather better than a shallow one, and furnish more plant food; but all deepening should be gradual, not bringing up more than about half an inch of raw subsoil at once. The expression I used of tearing the land up to the bottom of the plowed furrow, if possible, was simply a strong way of saying I would run the cultivator teeth as deeply as possible and not overwork the horses. I have always used teeth 1¼ inches wide for this first cultivation, while the plants were small. They do not throw soil on the little plants A strong horse can readily draw five of these going down about as deep as land is usually plowed. Many a day have I walked between the handles and seen it done. More than this, when the potatoes were small I have used a subsoil plow, going down about one foot, drawn by one heavy, strong horse, and actually lifting the soil perceptibly that the rows of little plants were growing in, as I passed along. And they would make a rapid growth right after this. I would not like to depend on loose, open places in the bottom of the turned furrow for drainage where the land needs it, as a rule. I like to have the land made fine and mellow as deeply as it is plowed. I like to have all the open spaces filled and the soil fairly compact, as well as fine, down to the subsoil. This is the root bed. They will thrive better under such circumstances. But one can see how, where underdrainage was needed, and very heavy rains were sure to come, it would not be wise to make the soil over fine. I could not make out the State the above-mentioned letter came from, but presume it was from the South. I have been told that very heavy rains after plowing would put their soil in such a shape that it was best to plow it over again. This shows two things lacking, viz., underdrainage and vegetable material in the soil. The former would take out surplus water, what the soil could not hold in suspension, like a sponge; the latter would prevent the soil from running together so much when saturated with water. These are conditions well worth working for systematically on land that is to be cropped. If you are governed by this advice you will surely thank the P. F. some time in the future. A little plow ahead of the big one is an excellent thing. They are called jointers here. We have used them some 25 years. One can do a cleaner job of turning under sod and trash with a jointer on his plow. But under our conditions it is best to work down the looseness that this leaves in the bottom of plowed ground.

To Accumulate Money Isn't Everything.—A farmer from a neighboring State called to see me not long ago. He is one of the P. F. family. When I went down from my study I found him sitting by the grate fire. After talking a little while I proposed to show him the improvements we have been making in our home, before we went out to see the barn, fields, etc. "Oh, I don't care anything about seeing your home," he said, "there ain't any money to be made in the house." Without another word I started for the barn. On the way a notebook was taken out and his exact words written down as a text for a little kindly talk to all of the brothers. Our friend looked a little suspicious when he saw me writing, but said nothing. Now, I fear this good brother is not getting all he might out of life; that he is making a mistake; that one of his highest aims in life is not to make his wife and family, as well as himself, as comfortable as their circumstances will allow. I am afraid that he is living to work most too much, to accumulate property just for the name of it; that he loves money simply as money, rather than as a means to the better enjoyment of life for himself and others. Property represents labor laid up and we ought to work to live. It is a grand thing to work hard for money, within reasonable bounds, until one gets what land he really needs, or a home, paid for and improved, and something ahead. And still it should always be with the definite object of enjoying more and more of what we make as we become able, not of piling up as many dollars as possible, as long as life or the ability to labor lasts, to be left often to do more harm than good to the children. Better for them to enjoy it with you as you go along; better for the wife and you. It is true that an improved home calls for the spending of more money, while a good barn will help to make more. And I have no fault to find with a farmer who builds a good barn first, before he does a house. It is a business-like way of doing. But then I do want him to use a due proportion of the money the barn helps him to make in improving the home also, from time to time, or lay it up towards building a new one. This is due the wife and family, and surely the man himself should take pride in making his home as comfortable and convenient as he can afford and in uplifting agriculture, his business, to this extent. I am aware that quite a few readers are in debt, struggling to pay for farms, and must get along most any way in their houses. Their main interest must be to make some money at present. And every good woman will back up her husband under such circumstances. But they can work with more vim if they are talking about and planning the home that shall surely come sometime in the future. Wife and I had a long experience in doing just this. Well do I remember how we worked in 1883, when we found we could pay for a new home at last, and how often the thought of a good home in the future had renewed our courage to fight against hard odds. The faithful wife thought we better build a barn first, but I felt, dear friends, as though a good home was first due the woman who had worked so hard on the farm for some 14 years, and the same for the writer, and twice now since building we have spent money freely to bring the home more up to the times, and every wish of the wife has been gratified in the way of improvements. We will not lay up any money this year, but we shall surely get a whole lot of comfort from what we have spent. Who cares whether we could sell the farm for any more? We don't want to sell it. It is our home. There are many well-to-do people in our P. F. family. I think they make a mistake if they do not do something as we have and get the good of some of their money in more of the comforts of life. I wish you knew the comfort my wife takes in her little dining room that is used for no other purpose, with a large refrigerator in the partition on one side, and also in her little cook or stove room, opening out of the kitchen, where she has her oil stove; and then in her beautiful bow window for flowers facing south, and glass in all the windows of living rooms that she can see straight out of, not to mention many other things. And the writer has for years longed for the comfort of a good open fire, and an absolute certainty of pure air all over the house, automatically, night and day, and now he has got them.

How to Control Draught of a Grate Fire.—About five o'clock one morning I cleaned the ashes out of the grate thoroughly and filled it full of coal. It was cold out of doors and I expected it to remain so. On the contrary, it began to warm up rapidly after sunrise; but there was no stopping off that full fire. To have followed directions, part of the ashes should have been left in the grate so as to check the draught. Hotter and hotter grew the fire until the mercury had nearly reached 80 degrees. In desperation I went down the cellar to the ash pit door and got a hod of ashes and shoveled it onto the fire until it was checked. Then I began to think: "All of these years grates have been used and only this very crude way of checking the draught by leaving in more or less ashes. Why cannot a grate fire be held down something as a fire in a stove? That is what we want and what we will have." In a little while I called to wife, saying, "I have got an idea." "Well, hold onto it," she replied. Pressing business obliged me to drop the matter then for that day. The next morning as soon as it was light I made a full fire again. Wife said: "Fixing to bring up more ashes, are you?" "Not a bit of it," I replied. Then I found a used-up tin wash boiler, and an old pair of shears, and cut a strip of tin from the side of the boiler, just wide enough to cover the space under and in front of the grate basket. Then this was bent to fit and put in place. As the tin was unevenly cut, of course, I put some fine ashes along the bottom where it sat on the tile hearth, so as to prevent air from passing under it. All this took perhaps 20 minutes. Then I stood up and said: "Now burn up over-hard and make us trouble, and in four or five hours die down to almost no fire, if you can. I am master now. You must do my bidding. Man's hand is on your windpipe. Without the oxygen from plenty of air passing under and up through you rapid combustion is impossible. Just air enough can go down into you from above, Mr. Fire, to make a steady, uniform heat for 12 to 15 hours at a time." And so it was, precisely. It is simply wonderful how perfectly it works The temperature of our three living rooms scarcely varies a degree for 12 hours after the grate is cleaned out and filled with anthracite, unless there is an extreme change in temperature outside. We have no occasion whatever to touch the fire, except morning and night. With a prospect of decidedly warmer weather in the middle of the day, the grate may be cleaned less thoroughly of ashes, if you please, and less coal put on, in the morning, and a steady, low fire can be kept with about half the usual amount of coal. If it is still too warm, along in the middle of the day, we open all outside doors and the garret door and windows, and let the heat pass out. This same arrangement will check the rapid burning of wood, or any other fuel, but of course wood could not be made to burn as long as hard coal. We had wood burning one night, making a beautiful fire, and a visitor said, "How slowly that wood burns away. In my grate it would all have been gone long ago." There is one point, economy as well as uniformity. I have not tried the device with soft coal. A cover that encloses all the space under the fire basket bottom will help keep the fire steady and uniform, but some air passes through the front of basket, and the fire is not checked as much, or kept as uniform, as where the cover comes up to the top of the basket. Of course ashes must not be allowed to fill up the space under the grate and behind the cover or the grate bottom will be melted, perhaps. In due time I shall get a cover made of Russia iron, with a handle on it, and a damper in it, if it seems advisable. The old tin cover is serving a good purpose while we are experimenting and finding out exactly what is best. In 12 hours our fire does not get low at all, and I only need to remove the cover, which shuts off the draught under the fire, put on the blower, to prevent dust coming out, clean out the ashes that are in the grate and fill with coal; then put the cover back in place at once. This takes about three minutes. Soon the fresh coal will all be alive. The best base burner stove we ever had could not be made to burn more uniformly for 12 hours, and the grate, as we have it put in, with ash pit and ash trap, is less trouble to care for. Our grate is simply a marvelous heater; it is a first-class warm-air furnace, sitting in the fireplace, bringing in fresh warm air, and showing an open fire in the room, but it needed this improvement to make it perfect in its working. But one more invention was necessary to entirely satisfy the writer. Oh, the delight of sitting by that glowing, open fire in the evening, after the day's work is done, and when the cold wind is howling outside, absorbing the delightful radiated warmth directly. But do you know it would mar my pleasure to be all the time thinking of the heat that was still passing up the chimney flue, in spite of the wonderful perfection of this grate? How we have arranged to save this, too, and how you can, will be told next week.

T. B. Terry.

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Be Vigilant in the Care of Beans at Harvesting Time.

DR. GALEN WILSON.

It is only a few years, comparatively, that field beans have been grown in the United States on a quite large, commercial scale. This has only occurred since the wheat crop commenced to fail in the East and Middle Western States. When the wheat so largely failed farmers had to seek some other ready cash grain crop to take its place, and beans have been found an excellent substitute. They do not deplete the soil of fertility to a degree that wheat does; and in one respect they improve it, and that is, they gather nitrogen from the atmosphere and deposit it in the soil. A crop of beans grown on a field largely improves the wheat crop that is sown to succeed it, as is occasionally done, provided only that the weather of the following winter favors it and the Hessian fly does not bother; but these are so uncertain that the farmers of the sections named place more reliance upon bean growing than upon wheat production. But comparatively few have yet learned the importance of properly caring for the crop at harvest time. No other cereal farm crop is liable to suffer so easily and extensively from rains and wet or damp weather at harvest time as beans. The farmer should be more watchful of weather conditions and prospects now than when harvesting any other crop. The careful grower watches the ripening of the beans very closely. When nearly ripe, with only a few green pods remaining, if the weather be fair and it seems to promise fair for a few days, it is best to commence cutting or pulling them, whichever is done, and push the business right along. Turn the windrows when the tops are fairly wilted and the moment they are dry enough to go under cover, get more hands and teams if necessary and hustle in. Should some of them be not quite dry enough to keep in a mow, farmers often have other storage room where they can spread them out until they get dry enough to mow away; or they can be put in small stacks near the threshing barn and the stacks be topped out with straw so they will shed rain. Manage every way, any way, to keep them out of the rain if that is impending and imminent. Two or three successive wet days at this time may make all the difference between a grand success and a dismal failure. Beans are worth about $2 a bushel, usually, and 20 bushels to the acre is a fair yield. If all bean growers could see what I saw a year ago, they would certainly get a hustle on them during bean harvest. A man had ten acres cut and dry, in the windrows. He delayed hauling them in one day too long. A soaking rain came at night previous to the day he had got the men and teams ready to haul. It continued to be wet three or four days before he could dry them. Some of them sprouted, and nearly all of them turned black and he got only about enough for them to pay for harvesting, threshing and hauling to market. Many neighbors lost from one-fourth to three-fourths of the original value of their crops for the same reason. The bean haulm—pods and leaves—well cured and saved, bring $4 a ton for cattle and sheep feed; but in being exposed to a hard rain, they also turn black and are worthless. Two brothers watched the weather, "hustled around," as they said, and saved all their crop and pocketed $900 for the beans grown on their little farm; while a few others did similarly well. But it was a very rainy, bad season. One mistake some planters made this season, was to plant some of the beans that were partially blackened last year. Such germinated well, grew off nicely at first, but later dwindled away and amounted to nothing.

Tompkins Co., N. Y.

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Good Roads. Why Farmers Should Favor Government Co-Operation.

COL. J. B. KILLEBREW.

The rapidity with which the sentiment in favor of national aid to the common roads of the country has spread, and the eagerness with which the proposition is welcomed since the introduction of the Brownlow bill in Congress, have not only been highly gratifying to the friends of the measure, but surprising and astonishing to its opponents. The truth is the great body of the farmers of the land are slow in demanding what they are justly entitled to. Had the same necessity as the want of good roads among farmers existed in relation to the manufacturing, mining or commercial interests of the country, such a necessity would have long since been recognized and met by adequate appropriations from Congress. The tillers of the soil do not work in concert for their own advancement. By the census of 1900 the whole number of people above the age of ten years engaged in gainful occupations in the United States was 29,074,117. Of this number 10,381,765 were engaged in agricultural pursuits. No other specified occupation employs so many. The manufacturing and mechanical pursuits employ 7,085,992 persons; trade and transportation, 4,766,964, and profesisonal service, 1,258,739. And yet the farmers of the country, that contribute more to its permanent prosperity than all other classes combined, have the smallest amount of consideration in the matter of Congressional appropriations. In all the history of the past legislation of the country but few efforts have been made to equalize the benefits of Congressional appropriations. Until the rural mail routes were established a citizen living in the country rarely received direct benefits from the money expended by the general Government, except that for the Agricultural Department. The commerce of the country felt the exuberance of fresh and lusty life and vigor from the improvement of the rivers and harbors, but this exuberance would have been vastly increased had half the money appropriated for rivers and harbors been applied to aid in the improvement and maintenance of the public roads, the very foundation of commerce. It must not be imagined that anyone proposes that the Government shall enter upon the work of building public highways without the cooperation of the State, county or other political subdivision. The policy of the Government should be to help those committees that help themselves; to stimulate action and enterprise rather than to repress it by appropriating money to those communities that do nothing for themselves.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Sowing Crimson Clover. — T. C., Stowell, Pa.—"Please advise me in regard to sowing crimson clover. I want to plow the land this fall and sow early in spring to plow under for buckwheat. Would you seed alone or sow some other crop with it to shade it?" Having never tried the sowing of crimson clover in the spring, we are unable to say what the result will be, but we apprehend that the growth will not be very satisfactory. For the purpose you name it should be sown alone at rate of 15 lbs. per acre. Turning under a green growth at mid-summer may perhaps do no harm in your climate and soil, but, as a rule, we think it more likely to do harm to the land and the following crop than to do good. Green manuring is a practice that wise farmers everywhere are rapidly abandoning.

Plant for Name. — Edward Easley, Columbia, Mo.,—"Please name the enclosed specimen of grass for me, giving its botanical and common name. Is it likely to become a pest? Have only noticed it for two or three years." The specimen is not a grass at all, but a sedge. It is Cyperus Hydra, commonly known as nut grass. It is one of the most pestiferous of weeds, and one of the most difficult to get rid of when once established, as it increases freely from seed and from the underground tubers. If you have but little of it now is the time to get rid of it by grubbing out with the utmost care every particle of the roots and burning the tops to kill the seeds. The seeds are now probably scattered and you will have to look sharp after them another season, and do not allow a plant to seed.

Lime, Sulphur and Salt Mixture.—Hugh Barker, Centralia, Ill.—"You give directions for the lime, sulphur and salt spray. Can I get a mixture that I can use cold on apple trees? Would caustic potash in place of salt answer? Your paper states, in a recent issue, that the moon had no influence in your individual case. Well, in support of the lady who believes in it, if anyone believes that the Bible is the word of God, they also believe that the moon exerts an influence on all things that grow Gen. 1. 12 to 16." Use the same formula without boiling, and in place of the salt add four pounds of caustic soda. Stir the mixture briskly while adding the sulphur and soda, and do not watch the moon to see if she approves the process. There is not a word in the first chapter of Genesis that advises us to regard the moon in the planting of anything. A disbelief in the inspiration of the Bible is not necessary to keep a man from superstition. "He that observeth the wind shall not sow, and he that regardeth the clouds shall not reap." "In the morning sow they seed, and in the evening withhold not thy hand: for thou knoweth not whether shall prosper, either this or that, or whether they both shall be good alike." This, too, is good Scripture, and in all the Bible there is no word telling us to regard the moon or the signs of the Zodiac in our planting. But there is a great deal said about water. Isaiah says: "Blessed are ye that sow beside all waters, that send forth thither the feet of the ox and the ass," and further, "And thou shalt be like a watered garden, and like a spring of water, whose waters fail not." In the thirsty land of Palestine water was always the most important matter, and nowhere in the Bible are we told of anyone who planted by the moon or the signs of the Zodiac. "Like a watered garden," if you have the proper soil and the favorable season, the cucumbers will grow and mature their fruit no matter if the Twins did not smile on the planting nor the moon shone right.

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Home Mixing of Fertilizers.—W. H. Lewis, Smithburg, N. J.—"Please advise me about mixing my own fertilizers. I am thinking of making a mixture as follows: Muriate of potash, 240 lbs.; acid phosphate, 250 lbs.; ammonia, 200 lbs. What shall I use to make up the ton? Is bone meal, bone black or Carolina rock best? My soil is a sandy loam." The mixture you propose is a rather uncertain quantity. You cannot buy ammonia as such, but must get it in some combination, such as sulphate of ammonia, cotton seed meal, dried blood or tankage, all of which contain certain percentages of ammonia. Ammonia is a hydride of nitrogen, and the percentage of nitrogen is the important thing in a complete fertilizer, for all the materials named will have to go through the process of nitrification in the soil or being changed into nitrates, before plants can use them. You can get nitrogen in nitrate of soda already in a shape to feed plants. But it should be used only during the active growth of the plants, as it soon leaches away from the soil, while the organic materials named are more slowly becoming available in the soil and feed the plants for a longer period. Then in the mixture you propose you have entirely too large a percentage of potash in proportion to the other materials. Your 240 pounds of muriate will give you 120 pounds of actual potash, while the 250 pounds of acid phosphate will give you about 40 pounds of phosphoric acid, and any ammonia bearing material would not give you much, if any, more ammonia in the 200 pounds. If you will get the book "Crop Growing and Crop Feeding," you will find these matters fully explained and more plainly than we could make it in this whole issue of the P. F. Bone meal, bone black and South Carolina dissolved rock are all valuable for the phosphoric acid they contain mainly, though raw bone meal of good quality will have some ammonia in it. The phosphoric acid in the dissolved rock is in the most available form, and phosphoric acid is simply phosphoric acid, no matter from what material you get it. The only point to consider is the percentage that a certain article contains, and the availability of the acid in it. Bone meal and bone black will have a higher percentage of phosphoric acid than acid phosphate from rock, but it is in a more insoluble form. In mixing fertilizers you need to take into consideration the character of the soil on which they are to be used and the crops to which they are to be applied, for crops have different food needs, and a fertilizer that is excellent for one crop may not be as well composed as for a different one. Your sandy soil doubtless needs potash, but the percentage should be in proper proportion to the other ingredients. For general farm crops a fertilizer mixed as follows, will be found a very good one. For truck crops the ammonia should be higher: Acid phosphate, 1,200 lbs.; cotton seed meal, 600 lbs.; muriate of potash, 200 lbs. to make a ton. E. Mortimer, 13 William St., New York, advertises in the P. F. to furnish farmers materials for home mixing of fertilizers. You can get "Crop Growing and Crop Feeding" from The Farmer Co., Philadelphia, for 50 cents in paper cover, and $1 in cloth binding.

Using Lime.—M. W. Eller, Zionville, N. C.—"Can lime be successfully used as a fertilizer in a freestone country? If so, how should it be used and how much per acre?" We fear that our friend has not read the P. F. closely, as we have from time to time tried to show that lime is not used as a fertilizer in the ordinary meaning of a fertilizer. All arable soils have a very considerable amount of lime in them, far more than crops will ever use up as food direct. But fresh applications of lime are used, in connection with the growing of legume crops, for the bringing about of changes in the condition of the soil chemically and physically. Lime is useful in a soil abounding in vegetable decay, making a fertile soil, but a sour one, until sweetened by lime, will make potash that is in an insoluble state in the soil soluble. Fifteen to twenty bushels per acre, repeated every three or four years is better than a heavy application at a longer period, if you are practicing a rotation of crops. If an application of lime does good, do not fly off on a tangent and assume that lime is all that you need to make land rich, for if used with this notion you will soon find that lime is exhausting the fertility of your soil. If you can get the freshly ground lime it can be scattered thinly over the field broadcast and let it slake in the damp soil. Apply the lime on top of prepared land. If ground lime cannot be had, slake fresh lime with water to a powder and use about 15 bushels per acre.

Feeding Roots to Hogs. — J. Worth, Litchfield, Ill., gives his experience in feeding hogs on roots as follows: "In the spring of 1902 I sowed White Milan turnips. Season dry, turnips so strong as to be unavailable. Bought four shoats of 40 pounds each. Offered the turnips. Would not eat them. Boiled them. They ate ravenously, and I saved the 50 bushels of turnips. Sowed blood beets and planted winter squashes. In season, boiled them with the beet tops, all of which they ate ravenously. Fed the four 8 bushels of corn in the fall. Paid $17 for the four and sold them for $67.50 in December. The 8 bushels of corn was all the feed bought. May 9, 1903, I bought six shoats, weighing in all 277 pounds. Bought ship stuff until I could raise turnips. Sowed one-eighth acre in sugar beets and a patch of carrots. Have been feeding these boiled for two months. The six will weigh 1,350 pounds now and are fat. They have not eaten two bushels of corn since I have had them, being fed almost entirely on the beets for seven weeks, having but a small patch of the carrots. The beets will last them four weeks longer. You can imagine how long one-eighth of an acre of corn would last six hogs which weighed seven weeks ago probably 150 pounds each. Chemists say that potatoes, beets, turnips, cabbage, etc., are principally water and of little value as stock food. But the mass of the Irish people are raised on potatoes, garnished very little. Look at them mentally and physically. The mass of the German peasantry are raised on cabbage, crout, potatoes, etc., and since these vegetables produce such men and women, why should they not produce fine hogs and other stock. I acted on that assumption, and am well pleased with the results so far. A man with a little land can, I believe, raise four times as many hogs per acre as he can on the same ground in corn, though there is more labor in the feeding. I boil my beet and turnip tops and the hogs like the greens as well as we do in the spring. My hogs are in a small, muddy lot, with shelter to sleep in, and no hogs were ever more healthy."

Growing Alfalfa in Illinois.—Clarence McKnight, Oblong, Ill. — "Can I grow alfalfa in this part of the country? Land on which I want to grow an acre and a half is somewhat sandy. When is the best time to sow it and how much seed and how to sow it?" If your soil is sandy and the subsoil easily penetrated by the roots, and it is not inclined to be wet, you can grow alfalfa successfully. Sow as early in spring as you can get the land in order, and use 25 pounds of seed broadcast. Clip it with the mower several times during the first season to strengthen the roots and keep down weeds. Write to your Experiment Station at Urbana, Ill., and ask them all about their experience with the crop in Illinois. They have published bulletins on the subject and are ready and anxious to advise any farmer in the State.

Iron Cow Peas.—M. F. Bowie, Aiken, S. C.—"You asked that someone of this State, who is a reader of the P. F., to give our brother readers some advice on the Iron cow pea. I have planted this pea for years for a seed crop. The Iron pea, as you have been told, can be planted or sown with a grain crop in late fall or early spring. This can be done only in a climate where the soil keeps cold until springtime, with safety. In our climate here, where we have December frequently as warm as May, and, like last winter, with little or no cold, it will cause all of the seeds that are near the surface to sprout, and hence we lose a part of them, though there will be some to come up in the spring, and will make a most rapid growth. There is no pea that will stand drought as this pea. It makes a superior hay to any other, and is but little later in maturing than the Black Eye. I have just harvested a crop of hay which was mixed with the Iron and Wonderful, which I will not do again. The Iron peas were ripe and made a fine hay, while the Wonderful were unripe and the vines as green as grass. Let Mr. Scovil give this pea a trial on that field where his Black Eye peas did so poorly. Sow, say, three-quarters of a bushel per acre in his grain. I think that they will show up all O. K. next spring. Reap the grain and let the peas take the land. We are having the same experience here with the Wonderful and Whippoorwill peas as Mr. Scovil has had with the Black Eye pea.

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PROF. A. M. SOULE.

Will you kindly tell me how to make cheese like you buy in the stores? Just common cheese that comes in big round boxes.
Mocksville, N. C. MRS. W. A. GRIFFIN.

The kind of cheese most commonly offered for sale in the stores is known as cheddar. The process of cheddar cheese making was originated more than 250 years ago in Somerset, England. From there it has spread all over the world. The first requisite to making good cheese is a supply of pure sweet milk. It is a very important matter that the milk be perfectly clean and the utensils in which it is drawn and retained be thoroughly washed in scalding water and then cooled before the milk is placed in them. This is to avoid certain ferments which may otherwise develop in the milk, producing what is known as gasy curd and making a cheese full of large holes, of an undesirable flavor and of poor keeping qualities. In order to have milk of the best quality for cheese making be sure that the cows' udders are carefully brushed off before milking and that the cows receive good, pure water and plenty of nutritious food and are kept in a clean, well-ventilated stable. The greatest trouble the manufacturer of cheese encounters today is the difficulty of securing milk in a suitable condition to work with.

If you wish to make a small cheese weighing, say 28 to 35 pounds, of the kind you have seen in large stores, take about 300 pounds of milk as soon as drawn in the morning, carefully aerate the same and put in a suitable vessel; a tin-lined vat is best. The milk should not come too nearly to the top of the container because of the constant stirring which is necessary during the process of cheese making, which might cause it to slop over. If you have not enough milk from the morning's milking, you may save the previous night's milk by aerating it; that is, stirring and throwing it back thoroughly so the air will circulate through it and remove the animal odor. Then put in a vessel surrounded by cold spring or ice water so as to keep the milk at a temperature of 60 degrees F. After adding the morning's milk stir thoroughly. Cool or heat the milk as necessary to 80 to 86 degrees F. Be careful about this matter and do not have the milk at 90 or 95 or 75 degrees, under the impression that it will make but little difference. Cheese making is quite an exact science if the milk is in the proper condition and the rules governing its manufacture are adhered to. When the milk has been brought to the proper temperature add the rennet. One contemplating cheese making should purchase the Marschall rennet test. This costs but little and can be obtained from dealers in dairy supplies. Directions will come with the Marschall test for its use that will enable you to determine accurately at just what stage to add the rennet. It is necessary that a certain amount of lactic acid, the normal acid which forms in milk when souring, be present in the milk in order for the rennet to give its best results and to secure the proper after working of the curd. Rennet is obtained from the fourth, or digestive, stomach of the calf that is living upon the mother's milk at the time of slaughter. The use of rennet in cheese making is to cause the coagulation of the casein or curdy matter of the milk. It is most active at the body temperature of 98 degrees, but if added to the milk at that temperature it would cause too rapid a coagulation and allow the fat to escape and so be lost in the whey, and hence it is found advisable to insure the incorporation and add the rennet at a lower temperature, as already indicated. Owing to the fact that rennet can be made so much easier and cheaper on a commercial scale, it is not advisable for you to attempt to manufacture it at home, though the process is quite a simple one. As rennet varies in strength, according to the manufacture, it will be necessary for you to make several tests in order to determine just the right amount to add. This you can do quite readily by the aid of the Marschall test. Sufficient should be added to cause coagulation in 15 minutes and the curd should then be ready to cut with the special knife used for that purpose in from 30 to 35 minutes. From two to three fluid ounces of rennet of ordinary strength are required for 1,000 pounds of milk. In adding the rennet care should be exercised to see that it is distributed thoroughly through the milk. This can best be accomplished by adding it quickly and stirring it rapidly for four or five minutes. The curd is ready for cutting when it breaks clean over the finger.

The curd is cut by passing the horizontal knife through the vat in a longitudinal direction and then by passing the perpendicular knife in both directions. These knives are especially made and are not costly. Lack of space prevents a description of their construction. When the curd is cut it will be in half-inch cubes. After cutting the curd should be allowed to settle for a minute or two to firm on the outside. It should then be gently and constantly stirred while heat is applied, so as to raise the temperature about 2 degrees in five minutes. This is to develop the lactic acid and to thoroughly cook the curd. In the meantime the particles will have shrunk to half of their original size. The curd should now be allowed to settle or mat in the bottom of the vat and the whey may be drawn off by means of the syphon or strainer dipper or such other device as may be at hand. Care should be taken to press all the whey out of the curd and drain it out thoroughly. In fact, when the whey has been drawn off, it is advisable to take up the curd and put it either in a special vat or in an ordinary cotton cloth. When the curd is matted down it should be cut in small squares and piled together. This process should be repeated several times, the outside blocks being piled in the centre to keep the temperature uniform. This process is to develop further acid in the cheese and also to expel the whey. When the curd assumes a smooth, elastic appearance and a fibrous condition not unlike well cooked meat, it is ready to grind.

The grinding may be done in one of several ways, though a curd mill is the most satisfactory instrument for the work. After the curd has been thoroughly ground it should be salted. After the salt has been thoroughly worked through the curd by repeated mixing and some time has elapsed so as to insure the further breaking down of the curd, it may then be put in the press. Hoops are especially manufactured for this purpose of several sizes and the process is quite a simple one. The pressure should be put on gradually, and after the cheese has been in the press for an hour or two, it should be taken out and turned and the bandages carefully straightened out. At the end of twelve hours it may be taken out of the press and put on a shelf in a cool room where the temperature is not above 60 degrees, and allowed to cure. The outside of the cheese should be kept dressed thoroughly so as to prevent it from cracking. At the end of two to four months, according to the taste, the cheese will have broken down sufficiently and developed sufficient acid to suit the taste of most persons.

A small family cheese making outfit is manufactured by nearly all dairy supply houses and if you contemplate the manufacture of cheese, it would be wise for you to secure one of these outfits. It will cost you but little and you can make a satisfactory product for home consumption.

Tennessee Experiment Station.

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Value of Corn Concentrated Feeds.

Now is the time to plan for winter feeding of live stock to improve, if possible, the methods of a year ago; to correct our mistakes by a closer study and a more intelligent application of the fundamental principles of common sense feeding. The improvement in feeding methods from year to year is due almost wholly to the balanced ration, proving that this is one of the most potent factors which the farmer has to consider in feeding farm stock for profit.

We receive numerous letters daily from farmers throughout the corn growing States, who are alive to the fact that it is false economy to feed corn heavily just because they have a surplus. The steady advance in the average price of corn for the past two or three years, and a careful study of the balanced ration, has resulted in a more general feeding of concentrated feeds to supply the protein lacking in farm grown feeds, which is really the true economical principle in feeding. The present average price for corn is an inducement to a large majority of farmers to sell a part of their crop, instead of trying to feed it all as heretofore. This is an actual condition in many of the corn growing States and justifies the recent statement of several large manufacturers of mill feeds that the demand for their products is now heavier in the Middle West than it has ever been. Concentrated feeds are purchased for the protein they contain. There are two kinds of protein—one digestible, the other indigestible. When the farmer buys feed containing indigestible protein he pays for a large percentage of fibrous matter and other waste material that the stomach of the animal cannot assimilate. Several of the concentrated feeds on the market contain a reasonably high percentage of protein, but by actual test they are very low in digestibility, ranging from sixty-eight to seventy-five per cent. There are few of the well-known feeds that are almost wholly digestible and the protein contained in them makes muscle, meat, bone and milk. Corn is the basis of several of the best known concentrated feeds now in the market. Gluten feed, corn oil cake meal and gluten meal are all made from the best feeding parts of corn, and, in the process of manufacture are rendered almost wholly digestible. Recent experiments both in this country and Europe, showed gluten feed to be from 96 to 99 per cent. digestible—and always reliable for feeding all kinds of live stock, insuring the most economical gains. It matters not whether the farmer is feeding for meat or milk, it is true economy to feed a ration balanced with some of the digestible corn concentrated feeds. This is an opportune time for the farmer to buy his winter supply of concentrated feeds, and the demand is daily increasing, which is always the case when pastures begin to fail.

HOG CHOLERA.

Recent experiments and tests in the treatment of this terrible disease made by more than 300 farmers and hog breeders, who reported at the Illinois State Fair last week, that they have cured their hogs with the Snoddy Hog Cholera Remedy is conclusive proof that the farmers can protect their hogs against the ravages of this destructive disease. In addition to preventing and curing this disease, the farmers say it is the greatest worm remedy and thrift producer they have ever used. The treatment is cheap, simple and easy. Any practical farmer can prevent it or can cure the disease after their hogs have got it. Snoddy's Free Book on Hog Cholera fully explains the treatment and contains other valuable information for a farmer to make hog raising profitable, will be sent Free to any hog raiser, who will send their name and address to the Snoddy Remedy Co., Dept. 20, Alton, Ill. This discovery is saving millions of dollars annually for the hog raisers, and every one should write at once for this free information.

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Stock Queries.

Cow Stanchions.—Please describe one or more cow stalls, their dimensions, how to build manger, feed box, floor, etc. I would like to have some described, and possibly others of your readers would also. I do not care to use stanchions, and none of the patented articles advertised seem to fill the bill for a common barn. B. E. MITCHELL.
Mannington, W. Va.

There are almost as many kinds of cow stalls as there are patents for churns. It would probably be a very difficult matter to describe one stall that would meet with the approval of more than a few dairymen, as each man has his own notion about such matters. A stall for a cow should be roomy and should be so arranged as to prevent other cows from stepping on her when lying down, as the udder is often injured in this way. With a small cow the stall from the back of the manger to the gutter should be at least four and a half feet; for a larger cow five and a half feet. There is a great difference in the size of a 600 or 700-pound Jersey and 1,200 to 1,800 pound Holstein, and the breed and size of the cow must be taken into consideration in determining the dimensions of the stall. The stall should be at least 3½ feet wide. The feed box or manger may be arranged in a number of ways; for instance, it may be placed on the ground. It should be about 18 inches deep, to keep the animals from throwing the feed out at the top. There should be partitions between the individual animals for the purpose of preventing one animal from getting all the other's food. Some animals root the food from one side to the other and throw it out of their part of the manger altogether, unless there are divisions in the feeding trough. The trough may be constructed of cement where one wants an expensive stable. It should be about 30 inches wide at the top and about 2 feet wide at the bottom. The front of the trough should be straight on the alley side and flaring considerably on the side next to the cow. If constructed of wood use heavy planking 2 inches thick and a chain tie may then be used for the cows. This tie probably gives the animal as much freedom as any other, and has the advantage of not being costly. Of course where a cement manger is used a hole may be made in the cement at the proper place and a chain tie used if desirable. One of the principal objections to the wooden manger is the difficulty of keeping it clean and sweet at all times. It should be scalded out from time to time with a strong solution of sal soda, but even then the germs cannot always be destroyed, and if those of a pernicious character once become secreted in the cracks and crevices of the stable it is very difficult to dispose of them. Of course, a cement manger costs a good deal of money, and in that respect is objectionable. On the other hand, it will last a lifetime; whereas, the wooden manger must be renewed from time to time. The divisions between the stalls may be made in one of several ways. In order to put in manger divisions it would be necessary to run 2x4s to the ceiling every 3½ or 4 feet. A piece 2x4 may then be run up in a slanting manner to meet the upright. It should extend back one-half or two-thirds of the length of the stall. The angle thus formed may be boarded up or left open as deemed preferable by the owner. The floor of the stall may be made of earth. This is probably as satisfactory and sanitary for the average stable as a board floor. By placing a gutter at the rear of the stalls about 6 inches deep on the side next to the stall and 4 inches deep on the passage-way side, all the liquid manure can be conserved and the cows will be kept much cleaner. If a 2x4 is nailed along the side of the gutter next to the stall the cows will keep uniformly clean, because when lying down they will move forward so as not to lie on the 2x4. It is often advisable to put a heavy plank about one foot wide along the rear of the stalls where they meet the gutter, bedding it firmly into the ground to hold it in position. A cement floor stable for cattle is by far the most satisfactory though quite expensive, but the first cost is the great item to consider, as it will last indefinitely if properly constructed in the beginning. Where a cement floor is used it is generally better to use iron posts for divisions between the stalls and mangers. A modified form of the Drown stall is very satisfactory for this purpose.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Eczema.—I have a 2-year-old heifer that dropped a calf Aug. 28, 1903, and did finely for two weeks; then began to break out on back part of udder; a large raised blotch as large as a dime down to a point; dry and hard; has now extended all over the body down to her feet. Does not seem to be very sore; stands perfectly to be milked. One over the end of teat makes it necessary to draw the milk with a tube. Is gradually drying up. Has a bunch in flank as large as a turkey egg; seems to be loose under skin. Eats grass and feed, gluten and bran about 5 pounds a day. W. E. TAYOR.
Lynn, Pa.

This is doubtless a form of eczema, as cow pox does not quite present symptoms noted. Give her a pound dose of epsom salts in two quarts of warm water and follow with a couple of ounces of hyposulphite of soda twice daily in water. Do not feed corn; keep bowels open with soft food and flaxseed meal. Wash affected parts once daily with solution of tar product disinfectant; then rub in dry flowers of sulphur.

Sheep Dip.—Will you kindly give formula for sheep dip? W. H. MOGAN.

Full particulars regarding various sheep dips and treatment of sheep scab are given in a bulletin on the subject just published by the Bureau of Animal Industry of the Department of Agriculture, at Washington, D. C., and we would advise you to send for a copy, which is free to farmers.

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Cow Stanchions. — Simple, strong, cheap: that's the three-ply recommendation of the Scott Cow Stanchion. Every farmer who reads the P. F. and owns a cow should send $1 for a trial stanchion to B. C. Scott, 216 Beach St., Bridgeport, Conn., and say the P. F. advised you to send for it.

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Probably there is a Chloro-Naptholeum Dip agent near your home; if not, you can order from the West Disinfecting Co., Inc., 15 E. 59th St., New York.

Chloro-Naptholeum Dip costs, 1 gal. $1.50; 5 gals. $6.75; 10 gals. $12.50; freight prepaid from nearest distributing depot. Warehouses in all big cities.

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My offer is made to convince you of my faith. My faith is but the outcome of experience—of actual knowledge. I KNOW what it can do. And I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism. I will then arrange with a druggist in your vicinity so that you can secure six bottles of Dr. Shoop's Rheumatic Cure to make the test. You may take it a full month on trial. If it succeeds the cost to you is $5.50. If it fails the loss is mine and mine alone. It will be left entirely to you. I mean that exactly. If you say the trial is not satisfactory I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs for it is dangerous to take them. You must get the disease out of the blood. My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met, and in all of my experience, in all of my 2,000 tests, I never found another remedy that would cure one chronic case in ten.

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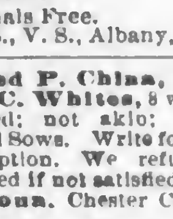

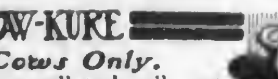
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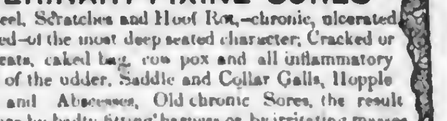
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This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

A Fish and Potash Combine.

Mr. Gregory tells, in Tribune Farmer, that he once purchased for manure purposes an entire cargo, nine hundred barrels, of spoiled herring, under the impression that with the oil in them he was getting more for his money than the same amount invested in porgy chum would return to him, as this has no oil in it. That impression was an error, for fat is carbon, and carbon not only has no manure element in it, but, as fat checks decomposition, it therefore, instead of adding to, really detracts from the value of the fish. While lecturing many years ago he learned in the discussion that followed that a combination of dry ground fish and potash was a great favorite as a manure for potatoes among the farmers of Bristol and vicinity, who are famous growers of that vegetable. It will be well to bear in mind that dry ground fish has usually a large percentage of salt in its composition, it having been used as a preservative of the various fish of which the material which makes up the ground fish is the waste. For this reason it is especially useful as an element in manure to be used on plants that love salt, such as cabbage and onions. Waste clams as manure have never given him satisfaction. At times the surface of the ocean in protected inlets along the coast is almost covered with some species of the medusæ, which are known locally as "sunfish," or "jelly fish," a soft, gelatinous, boneless variety. At times they are so numerous and easily got at that years ago he experimented with them by spreading a lot pretty liberally on some grass land. The result was nil, they proving to be utterly worthless. He adds the precaution to brother farmers who make use of fish of any kind or in any way as manure—always to use potash in connection with it, for otherwise it will soon bring barrenness to the richest soil. This last warning I would qualify or modify by saying that while fish and fish wastes contain no potash, they will still have very marked effects in increasing the crops on such soils like ours, which are well supplied, naturally, with potash—so liberally, indeed, that additional applications may be easily dispensed with for generations, especially when clover is a link in a rather short rotation.

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A Bean Bulletin.

The Experiment Station at Cornell (Ithaca, N. Y.) some time since issued a bulletin on growing beans. It is No. 210, if you wish to ask for it. All the beans going into market from the State, says the bulletin, are hand picked, which means that practically every bean is perfect. The preparing of the beans for market is almost entirely in the hands of the dealers. The farmer delivers his crop at the bean house. It is sampled. The sample is weighed, picked and weighed again to determine the loss by picking, and the farmer is usually paid for the estimated amount of picked beans which he delivers. At the bean house they are run through special machines that remove much of the refuse, and the hand picking is done by women and girls, some dealers arranging their work so as to keep ten to twenty persons employed throughout the year. The damaged beans removed from the crop have a high feeding value and are relished by both sheep and swine. Bean straw is also used for stock food. The varieties most usually grown in the State are Marrow pea bean, Boston small pea bean, Medium bean with its sub-varieties, White marrow, Red marrow, Improved Yellow Eye, White Kidney, Red Kidney and Black Turtle soup. Most largely grown are the pea beans, the Mediums, the Red Kidney and the White marrow.

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Talks on Timely Topics.

More About Fish and Fish Waste.—In many sections of the country fish and fish wastes are freely available for fertilizing purposes, and I have now and then inquiries about the value of such materials, and how best to utilize them. Our friend Gregory says (Tribune Farmer) that the only kind of waste which he has been able to find with any certainty of late years, has been the refuse from the industry which supplies fish oil for medicinal and other purposes. This is made from the livers of fish. It comes in barrels closely packed, which makes it necessary to chop the hoops, when it rolls out, one great cheese. The "liver chum," as it is called, is very hard to break up, and smells very disagreeably. He says he has usually composted this with sand, which "cuts" it, as the phrase is, meaning prevents its sticking together when once it has been separated. This "chum" costs about $6 a ton. It is by no means plenty. Other lots of waste are held at from $6 to $10 a ton, with the exception of waste herring, which brings about 50 cents a barrel, but as this is oftentimes in lots that are too near spoiled to bear curing by smoking, they do not admit of transportation any distance. All these later forms of fish waste (liver chum usually excepted) may be composted with barn manure, they being especially valuable to restore the nitrogen lost by fermentation in manure that has become "firefanged." The manufacturers of fertilizers have so generally monopolized fish waste of late years as a cheap source of nitrogen that it is not often that one can pick it up, and from its very nature it will not bear transportation into the interior.

It may be stated again, however, that all fish waste is extremely poor in potash, while on account of its stimulating nature, and its large proportion of nitrogen, such material might show wonderful results for a year or two, if used exclusively but for a longer period it would soon run the land out and make it hard and unproductive. Mr. Gregory tells that "this has always been the result of using it on grass land along the coast, in the days when the menhaden (called 'porgies' by the fishermen) were taken by the hundred barrels at a time by a single haul of the net, and what could not be skivered off and salted before spoiling were given away to the neighboring farmers. To be had in abundance for the taking, they were oftentimes applied very liberally to grass land, scattered whole over the surface, when crops rank beyond belief followed, resulting after a couple of years or so in run-out fields. This would have been prevented had potash been applied with the fish, with the addition of soluble phosphoric acid the first season, before the bones contained in the fish had time to decay."

Early Tomatoes. — For many, many years I have been trying to find an ideal early tomato, or at least the best early tomato existing. We finally found tomatoes, such as Atlantic Prize, Ruby, Leader, etc., which surely had the one desired quality of earliness, but which were so imperfect and poor in fruit, and usually so unproductive, that they could not possibly give satisfaction. We got a few very early specimens of what might be called a substitute for a tomato, but that was about all. When later tomatoes began to ripen, the "early" tomatoes were not any more in evidence, and nobody seemed to want them. At last came the Earliana (Sparks' Earliana) which seems to give us a starting point for an "ideal" early sort. Mr. Garrahan of Pennsylvania, who has thirty years' of experience as a gardener and tomato grower, says in Rural New Yorker: "After trying nearly all the so-called early varieties of tomatoes in the last 30 years, I am satisfied that Sparks' Earliana is, at the present time far and away the most profitable of any on the list. It demands rich soil, wide planting and constant spraying. The difficulty is to get seed from plants that have never known fungus troubles of any kind. The tendency of this variety to overbear is such that its vitality is greatly weakened; as a result of this weakness blight is apt to strike the crop. Chalk's Early Jewel is a variety destined to win fame as a good second early, all-around tomato for canners' use or market. As to the 'general practice' among growers regarding seed, the conviction in my mind is a growing one that the 'practice' in most general use is to buy from the man who has the showiest pictures, and the most forcible story."

W. V. F. reports on Earliana and Early Jewel as follows: "Earliana has been before the public several years, and is superseding all other first earlies in many localities, for truckers' uses. It appears to be an extreme development, by long and careful selection, of the Early Jersey Red, and excels all varieties of that type, such as Atlantic Prize, Early Ruby, etc., in quick maturity of its fruits. Other kinds, including the dwarf Quarter Century, may be so handled inside in early spring as to set a truss or so of fruits before planting out, that may color up befor Earliana, but no other yet tested on the Rural grounds ripens in quantity so rapidly. It has the scraggy, open growth characteristic of the very early tomatoes, admitting sunlight freely to the fruits, but has enough vigor under good conditions to perfect a large crop. The tomatoes color bright scarlet, grow to good market size and are much less inclined to be ribbed and unshapely than other very early kinds. They may be picked when showing only a touch of red, and ripen up in presentable shape almost on their way to market. Earliana has proven a most profitable variety to South Jersey gardeners, and its culture will doubtless greatly extend, but its quality is thin and sour, something better than Florida tomatoes as we get them, but far behind most standard summer kinds.

"Early Jewel (Chalk's) is a novelty of the year. Our plants were started later than those of the other varieties here noted, so no fair trial could be made this season as to comparative earliness of ripening. Chalk's Jewel, however, appears to rival the best earlies in this respect, and in addition bears a great crop of large, deep, round and smooth tomatoes, of first-rate table quality. The color is deep scarlet. From this single trial and observation in other localities, we regard it as a most promising variety."

My own Earliana and Early Jewel were planted on extremely rich soil, where they made a tremendous growth of vine, and set an enormous crop of fruit. It seems that these sorts will set an immoderate amount of fruit under almost any circumstances. The centre of the plant is open, and the growth scraggling. But the whole ground seemed to be red with tomatoes for weeks and months, and sometimes when everything that was ripe was carefully gathered up and removed, the ground was red with ripe specimens almost the very next day. Early tomatoes are a most important market garden crop, and a source of considerable ready money when the grower has learned to produce them in good season, and has the right variety or varieties. At the present time I know of no sort that can compare with Earliana or its strains in point of reliability and profitableness. On my grounds, under high cultivation, Early Jewel and Earliana seem to be very near alike in general characteristics of plant and habit of fruiting. It may be some time before we find anything that will crowd the Earliana to the wall. Only we will try to learn how to handle it just right in order to avoid injury to the plant by overbearing.

Notes from a Carolina Garden.

The great advantage which a mild climate and a long season gives the gardener is well shown by a piece of land in my garden. We pulled Chinese Rose Colored radishes from it all last winter, and in March set lettuce plants on it which headed well. Then the land was planted in Patty Pan Bush squashes, and when they gave out we planted second crop potatoes in it the last of August, and now, the last of September, there is a fine growth of potatoes, and if frost holds off until November we will have a good crop. In the meantime we will heavily manure between the potato rows and sow spinach for late winter and spring use, and in this way keep the ground giving us fresh vegetables the whole year through. Our latest planting of sugar corn has been greatly retarded by the extreme dry weather and the very latest we fear will not make roasting ears, for it has not yet tasselled. Next to this, however, is a patch that is now well in ear and will soon be ready if rain will but come. The latest will give us some fodder at any rate, and it is always best to keep the ground at work through the season. Our last planting of the green stringless snap beans is now in use and will probably last until near frost. On a heavy piece of garden land we have been trying to mellow for several years we now have a fine stand of crimson clover following cow peas, and we expect to plow this under in early spring, and feel sure that that land will work mellow another season.

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Model Ensilage Cutters. — The enterprise and generosity of the Silver Manufacturing Company are playing a prominent part in the preparations for dairy proceedings at the Louisiana Purchase Exposition at St. Louis next year. It needs only mention of this concern's name to call up in the minds of our readers the "Ohio" ensilage and feed cutters, regularly advertised in our columns. Two prominent dairy concerns, the A. J. C. Club and the Shorthorn breeders, determined to erect silos at St. Louis on the Exposition Grounds and to fill them with this year's corn crop against the time when they shall want to use silage in the competitions there next fall. The Silver Mfg. Co., Salem, Ohio, generously offered to donate, not only the ensilage cutting machinery, but also to erect the silos themselves. Both associations promptly accepted the offers, and modern, up-to-date silos have been erected and filled with the approved ensilage machinery for which this company is so widely noted. The work was done by the Ohio No. 18 cutter. We are reproducing here a small cut of this Ohio No. 18, with blower attachment, as exemplifying the type of cutter and blower made for ensilage purposes.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Covering Raspberry Canes.

In States where it is found necessary to cover raspberry canes in winter the work is best done just in advance of frost. The canes are best left exposed to sun and air as late as possible, in order to ripen well the wood, as this insures their coming through the winter in good condition. Before doing anything else cut out all old wood, leaving only that of the present season's growth. Then, unless the canes have been kept down by topping them as they grew, cut off the tops, leaving them of a height of about three to four feet. There may be more canes of the new growth than thought sufficient, but it is as well to have one or two extra in case of any mishap in winter, and these extras can be cut out in spring. Tie the canes together as compactly as possible, bend over, keeping them in place with stone, log or some weight until covered with soil, when the weight of the soil is usually sufficient without anything more. Many gardeners in States where freezings are not usually severe believe it pays them to cover their raspberry canes, better crops resulting, they find.

Trees for Shelter.

It is not for summer alone that trees should be planted for shelter. We want shade from the sun both for ourselves and our animals, but we want shelter from the cold of winter, and for either or both reasons should see to it that ample provision is made in the way of planting trees. How grateful is the shade of a maple or any other deciduous tree in summer, and the shelter of an evergreen in winter. What a pleasure of a cold, windy winter day when out door work is in order, to back up to a thick evergreen for a few minutes! How the shelter seems to inspirit one for renewed work. There seems such an absence of any thought to make the surroundings of a home comfortable that I often think it such a shame that the women and children have not more consideration. Is it any wonder the sons and daughters want to leave the farms? Long hours of work, but little cash and comfort, is their inheritance. If more attention were given to having the home surroundings pleasant there would be less desire to get away from the place.

Shade and shelter are within the power of anyone to have. Trees are so cheap that there is no excuse for anyone not having what he wants. Were it my own case I would let the shade tree be a fruiting one, say a pear or a cherry. These grow quickly and give good shade. Next to fruit trees those having wood of commercial value should be considered. Hard-wooded trees, such as hickories, ash, walnut and some maples, pay to grow for their timber. When it comes to the question of trees for shelter, the evergreens alone are to be considered, and of these some are much more valuable for timber than others. The white pine is a good one when young and for many years afterwards, with a little attention to pruning to make it bushy. The needles are soft, and give to the wind, so that it does not suffer from cold winds as those with stiff needles do. The red pine of Michigan is another very fine one for the purpose. The common red cedar is a good tree, hardy and quick growing, and possessing wood of great value. The yellow pine of Colorado may be named, too, as one of quick growth and valuable timber; and in the same class is the Douglas spruce of Colorado. It is certainly to the interest of every one of us to see that shade is provided for, and if space for trees of commercial value is available, set out some of them.

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Horticultural Query.

Girdling Grape Vines. — Will you please explain the process of girdling grape vines? What age should the vine to be girdled be? When should the work be done and how? What effect does it have on the vine and grape? Why does the vine grow larger above than below the girdle?

Limestone, Tenn. A. J. Parry.

Girdling consists in cutting out a circular strip of bark about 3-16 of an inch in width, when the fruit is about half grown. The descending sap cannot pass this point, and the maturity of the fruit is hastened. The vine grows larger above the cut, because the lower part cannot secure any of the descending perfected sap and ceases to enlarge. Sometimes when too large a strip is girdled the parts fail to unite again and the vine above the girdle dies. The securing of the grapes a trifle earlier seems hardly worth the trouble and risk of the girdling.

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Horticultural Notes.

Setting Apple Trees. — Apple trees should be set 30 to 40 feet apart, according to soil. In rich soil give 40 feet. At 30 feet an acre requires 50 trees. As an average, 20 feet does for cherries and pears, and this distance takes 110 trees. For peaches, plums and apricots rather less space is required than for cherries, 15 to 18 feet being sufficient for them.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Money in Handling Eggs.—In one of our exchanges we found the statement that some young women make a good living, and something besides, by buying soiled and dirty eggs and sorting and preparing them for market. They not only purchase all the eggs brought to them by the producers, but buy from hucksters, stores and shippers who may have a promiscuous lot that may be of mixed colors and not clean and presentable for high-class fresh-egg trade. These eggs are assorted into regular sizes and colors. The soiled eggs are made perfectly clean, all are candled and packed into new, clean cases, and sent to market as high-class table eggs. For this trouble they gain a profit of from three to six cents per dozen—90c. to $1.60 per case—all coming to them as a profit for having put the ill-cared-for products of others into the best possible condition for selling.

Winter Broilers. — If we have ever failed in anything, it is in the attempt to raise fall-hatched chicks. Not that we believe that it is impossible. Far from it. With proper houses and fixings it can probably be done. But it is no easy task. Commercial Poultry says: "We have some doubts about raising winter broilers. It is claimed by some that chicks hatched in the fall and kept through the winter come out as early broilers in January, but it requires a peculiar talent to make a success of this part of the business." Right you are. If you can supply greenhouse conditions, go ahead. If not, go slow.

Fresh Laid Eggs.—To have the best quality of eggs, says Country Gentleman, "you must have hens all of one breed and variety. If you have brown-shelled eggs, keep but one variety and stick to it, pure and simple. Do not mix or cross them, and have them all of the best. If white-shelled, have only the best that produces this kind of eggs, and all of one variety. Let it be the same if you have both. Keep each separate and do not cross them. We have continually for a year advised the keeping of the best and the continual selecting of the best for your winter layers. It is quite as important to have them all of one variety, so as to have regularity in the color, size and shape of the eggs. Nice, regular, even sizes are much better than an assortment ranging from large to small. Nice brown eggs, well selected, sell quite as well as do all white ones. The trouble is that equal attention has not been paid to having all one variety to lay them as has been given to the producing of the white eggs. If you keep Plymouth Rocks for eggs, have them all of one of the three varieties. If Wyandottes are kept, have them all of one variety, for you will find considerable difference in both size, shape and color of eggs laid by the several varieties of each, as there is as much difference in these as between the two breeds. The same counts to advantage when selling your dressed poultry. You can get more for twelve that are all alike in size, shape and color than for an equal number that are no two alike. A basket of peaches, all regular, smooth and well finished and of even, fair size, will be of more value than a basket not so attractive. It is the same with eggs, dressed poultry, vegetables or grain of all kinds. It is quality that counts in all branches of trade today—the better the quality, the more profitable they will be."

We have before this, repeatedly and urgently, spoken in favor of farmers keeping only one breed of fowls, and keeping them pure at that. The fact that eggs all of one color and size will sell better in a fancy market, and often bring materially higher prices, especially from private customers, is only one more reason why the said advice should be strictly followed. It means large profits in more than one respect.

Quality of Eggs.—We want eggs, and we want good ones. In order to get them we must feed the ration that will make them good. If the ration is faulty, the egg itself may tell you so. The poultry expert, Henry Van Dreser, says:

"What is a good ration for a laying hen? That question answers itself, if you give it a thought. What is an egg composed of? Seventy-four per cent. of the egg is water. Now, how necessary it is that a hen should have water every hour of the day; nice, clean water. Because it is impossible for a hen to lay many eggs without water. Now, when the housewife opens an egg in a saucer and examines it, the egg is not so nice as she would like to see it; the white of the egg is watery, the yolk is pale, and she thinks the hen is sick; but that is not so. When the white of an egg is watery, it shows that we are not feeding a good, balanced ration. The lack of protein in feeding causes it. Fourteen and a half per cent. of the egg is protein. That is the white of the egg. Now, we must find a ration rich in protein. That we can do by feeding plenty of clover and wheat bran and wheat middlings. What is the result? The white of the egg is thick and attractive. Ten and a half per cent. of the egg is fat; that is the yellow. If the yellow is pale, we can color it by feeding. If you feed too much buckwheat, the yellow of the egg will be pale. We feed yellow corn and wheat, two glutens, and in that way we give a beautiful hue to the color of the yellow. We also feed quite a good deal of corn to produce fat. How often do we pick up an egg in the winter with the shell so brittle that it won't stand shipping? Sometimes you find an egg with nothing but tissue, no shell at all. What is the matter with that hen? The shell is composed of lime, and it is a mighty drain on a hen's system, laying an egg every other day, to produce the shell; they must have lime enough to cover the egg with a shell. Clover is rich in protein, and it is rich in lime, but, in addition to this, we slake a little lime and put it into the shell box, and the hens will go there if they require it; and you will be surprised, if you try it, at the difference in the results.

"What is the result of this kind of food? We will break an egg in a saucer and see. The white of the egg is thick, heavy; it is attractive, nutritious; the yellow of the egg is the golden hue that was desired, and the shell is firm and strong and will stand shipment. There is the perfect egg, just brought about by thinking the matter over carefully and feeding intelligently. In this way, you see, the business becomes more profitable to us. Furthermore, it is just as essential for us to breed hens of the laying type, if we are going into the business, as it is for the dairyman to have a cow of the milk type if he wants her for milk purposes."

There you have the whole thing contained in a nutshell.

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Pointed Poultry Paragraphs.

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A Barred Plymouth Rock hen, kept by the Maine Experiment Station, is said to have laid 251 eggs in the first year. How long could she keep this up?

Over-Fat Fowls. — Whenever the hens are getting so fat that the eggs begin to get small, no better feed than oats can be given, and even that only in limited quantities. Withhold corn, sunflowers, and fats and oils of any kind.

It is not the Fancy Hen House that holds the most prolific layers. Often the hens in the very plainest structure, put up of rough boards, will lay the largest number of eggs. We try to make the place comfortable for our birds; and think we are on the right track to get the eggs.

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PROF. W. F. MASSEY, Editor.

Philadelphia, October 24, 1903

WITH alfalfa seed at $10 or more per bushel it is probable that a check will be put to the increased sowing of the seed in the East. We regret the high price, for the sowing of this crop in the East and the successful culture of the crop is a very important matter, and we would be sorry to see the growth of the culture checked by high prices. The continuous wet weather has had a bad effect on the alfalfa that we have seen, and much of it has suffered severely from this cause, and going into winter in a weakened condition may be disastrous in the Middle States.

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Hairy Vetch.

We would suggest some caution in the sowing of the hairy vetch. It is all right as a forage crop and soil improver, and also as a winter and early spring pasture. But we would be very careful to cut it as soon as in bloom on land where we expected to grow winter grain crops, for if you let the seed ripen you will certainly have the ground seeded and the vetch reappearing in the fall. Then if the wheat crop is on the ground the vetch may seriously injure the crop. Never allow it to seed except where you want it to reseed the land and come again in the fall. It will give no trouble in the summer culture of hoed crops, but will certainly show itself in the wheat or winter oats field. It is true that at the present price of hay in the South the crop of wheat and vetch is far more valuable as hay than for grain. We cut a piece of wheat and vetch hay this summer which made nearly two tons per acre, worth on the home market, $20 per ton. It would take a big wheat crop of grain to beat it at the present price for grain. Then, too, getting this crop off early we got cow peas on the land and will have at least two tons of hay per acre from these, making nearly four tons of the best of hay for the season, and we hope to get the peas off in time to prepare the land for alfalfa this fall. North Carolina, as the statistics prove, has averaged more hay per acre for the past ten years than Iowa, not because her lands are better, for they certainly are not, but because of a greater rainfall and a long season that favors double cropping. And yet North Carolina farmers, where hay is worth $20 to $30 per ton, make little hay compared with Iowa, where the land is far more valuable and the price of hay far lower. If Iowa had the rainfall and the long season of the Carolinas it would be hard to imagine how much hay she would produce, and how many more cattle she would feed.

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Taking the People's Money to Make a Few People Rich.

We are glad that the Farmers' National Congress again sat down on the ship subsidy scheme. What we need is not a ship subsidy, but a change in our navigation laws that will allow us to buy ships where we please and import them as we do any other merchandise. If this was done it would not be long before we would have a real merchant marine. Thousands of ships are now owned by Americans, and flying a foreign flag because of the stupid laws that forbid their registry here because they were not built here. The advocates of the subsidy tell us that it costs more to build ships here than it does in other countries. Is it not a little odd, then, that foreign nations have men-of-war built at our shipyards? Perhaps it may cost more, but when one of our home-built men-of-war run afoul of one of the foreign-built ones we shoot them full of holes in short order. A good article generally costs more than a poor one. Then they say that we cannot compete with the foreign bottoms in the carrying of freight because the foreigners are subsidized. We cannot see, then, that it will be of any advantage for the farmers of this country to take their money to pay subsidies so that ship owners may be enabled to make money in carrying their grain abroad. It is far better for the farmer to have the grain carried by those who charge the least, and as the subsidies are paid by other countries it does not cost the farmers of this country anything to enable them to carry more cheaply than ours can. This ship subsidy scheme has been brought up in the last two meetings of the Farmers' National Congress. At Macon, the writer was secretary to the Committee on Resolutions, and succeeded in killing it there, and we are glad that someone prevented its passage at Niagara Falls.

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Fall Plowing.

There are many advantages in plowing land late in the fall for the spring crops. If the deepening of the plowing and the subsoiling of the land is the object, it can be better done then than at any other time, for the subsoil is seldom in a state that admits of the use of the subsoil plow in the early spring. Whether subsoiling will be of advantage or not will depend on the nature of the soil. A flat, heavy clay soil that needs drainage will never pay for subsoiling. A deep, sandy soil does not need it. But high, rolling land which is inclined to wash into gullies, and has a hard clay subsoil right below the ordinary run of the plow, will be immensely improved by a deep loosening of this subsoil. The red clay uplands of the South have washed into gullies because they have been plowed shallow, and when the torrential rains of the South fall the shallow plowed soil soon becomes of a creamy texture and the only place for it to go is down hill. And down hill it goes, leaving the red subsoil bare and forming a gall that soon deepens into a gully. But if the soil is more deeply plowed, and the subsoiler follows, loosening the clay to a depth of fifteen or more inches, there is a body of loose soil that will take up the hardest rain without moving. Then, if we add to this a shallow and flat culture during the growing season, we form no furrows to gather a head of water to break over and go down hill. Shallow plowing and constant clean culture in hoed crops have made terrace banks necessary in the Southern uplands, and at times the rain is so heavy that the terraces fill and overflow and do more damage than if there were no terraces. With deep breaking, subsoiling and flat cultivation which would give no chance for a head of water to gather, there would be no need for terraces, for we believe that the terraces have caused more gullies than they have prevented.

But there are limitations to the value of the fall plowing. In the far North, where the ground remains frozen all winter and snow covers the land, the deep fall plowing can be made to mellow the land finely for the spring planting without any replowing in the spring, and thus much labor can be saved in the busy season. But in the Middle States, where there is alternate freezing and thawing, and snow disappears at times, and in the South, where freezing at night generally thaws the next day, and there is far more rain than snow, the leaving of the plowed land bare all winter will result in a great leaching of nitrates from the land. Hence, while the fall plowing and subsoiling will be of great advantage, they should always be accompanied with the sowing of some winter cover crop like rye or wheat or crimson clover, that will be at hand to catch the fleeting nitrogen, and save it in the form of organic matter to return it to the soil in the spring. This, of course, involves the additional labor of replowing in the spring, but it will be labor well expended, and in the longer seasons of the South there is not the same need for spring hurry as there is in the North. Fall plowing, then, we think, should be practiced everywhere, except on deep, sandy soils, but we should always take our climatic conditions into consideration. The bare cotton fields of the South have lost nearly as much of fertility in the winter rains as they have in the growing of crops. Fall plowing, like other farm practices, needs an admixture of brains with it.

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Roadside Beauty.

There is nothing that gives a passer-by a poorer opinion of a farm than a roadside front encumbered with a weed and scrub nursery. On many a farm which is otherwise comparatively clean, the roadside is allowed to furnish weed seeds enough annually to keep up the supply of brow sweatings for the next season. Even where there is some effort to keep the roadside clean it is common to let the whole growth remain until fall, when the weed seeds are ripe and then have a cleaning up which accomplishes little good. In traveling through Northern Indiana we were struck with the beautiful sod on each side of the railroad line and inside of the railroad fences. The grass and weeds were evidently carefully mown more than once during the season and there was, late in the fall, a sod of emerald green which made a strong contrast with the brown and closely grazed fields on the farms alongside. It takes little work, if done at the right time, to keep the roadside in front of one's farm neat and showing only a clean sod instead of bushes and weeds. The front of thousands of farms in all parts of the country shows a growth of bushes that hide the fields beyond and give a neglected appearance to the whole place. Now is the time to get at these things. Grub the whole front carefully, and determine that next season the growth shall be kept down. As the young sprouts appear in spring it will take but a little while with the scythe to clip them off, and a regular clipping with the scythe will do more towards banishing the bushes than any grubbing that is done but once a year. Where the no-fence law is in operation it is easy to keep the roadside clean with the mowing machine, and every farmer who takes any pride in the appearance of his place will see to this. There is a money value in neatness, for if two places side by side are offered for sale, one neat and clean and the other bordered with bushes and weeds, the clean farm will bring more money per acre by reason of its appearance. Then if we add to this some beauty in the planting of the front and the approach to the house with a well kept drive and a beautiful lawn, we will be adding dollars to the salable value of the farm at a small cost.

The Cream of the Bulletins.

Commonwealth of Pennsylvania. Department of Agriculture, Harrisburg, Pa. Bulletin 91. Canning of Fruits and Vegetables. By Prof. Geo. C. Butz.

Getting numerous inquiries in regard to the starting of canning industries in various parts of the country, we have concluded that a few extracts from this bulletin, published in 1902, may still be useful. Pennsylvania farmers can probably still get the bulletin on application to the Secretary of Agriculture at Harrisburg, Pa. It forms a pamphlet of about 50 pages and gives full and accurate information in regard to the canning industry and methods. In regard to co-operative canning houses the author says that few of them have been established largely by reason of the swindling that was done in the co-operative creamery business and attempted in like manner with the canning industry. A canning house needs one responsible head with good business ability. A processor is also needed, who should be experienced in the practical work of canning. Such men command from $50 to $150 per month, according to ability and reputation. His work requires care and skill, but there are really no secrets about it, and the use of preservatives in the cans is forbidden by law. Canners have learned that it is better for them to throw open the entire work to the view of the public, and thus gain the confidence of the people in the cleanliness of their work. No person can steal a processor's skill by looking at him work, nor can anyone equal the capper's speed by watching him. Farmers find the growing of peas, tomatoes and corn for canning houses more profitable than ordinary crops. Tomatoes vary in yield from 8 to 16 tons per acre, and at the time the bulletin was prepared the price was $6 per ton, but has been much higher since. A fair yield of sweet corn is about 4 tons per acre, worth $6 per ton, and it is a little more profitable than a grain crop. Peas, of the varieties grown for canning, will yield from 75 to 100 bushels per acre. The farmers of Delaware, where the peas are largely canned, realize about $20 per acre net after accounting for labor, seed and fertilizer. As to location, it is important that it be close to a large supply. There are many canneries in the large cities, where at times a glut in the market for fresh vegetables enables them to get supplies cheaply. But the best location is near where the products can be had fresh from the field, and a section where the soil and climate are favorable to the products canned. A location on a railroad and near a station is desirable, for without these the factory can only draw products from a limited district and is handicapped by expensive hauling. An abundant supply of pure water is essential for washing the products and furnishing the abundant supply of steam needed. A location where there can be had an abundance of labor is also essential. As to capital needed, the remark is made that while there have been great financial successes in the business, there have also been many failures. With capital sufficient to carry the larger part of the stock until there is a real demand for it, a fair profit will be realized and dividends declared. A small factory for canning tomatoes with a capacity of 2,000 cans a day, may put up 80,000 cans in 40 days running. It will have a building and outfit of tools costing about $700. The cans will cost $1,600; tomatoes $1,000, and skilled and unskilled labor for 40 days, $650, with sundry items of expense making the total $4,000. If such a concern is capitalized at $2,000, with the expectation of making quick sales to pay for materials consumed, it may be forced to sell the entire pack at almost cost to meet its obligations. But with a capital of $4,000 the expenses may be paid and the canner can wait until the market offers a paying price. Some of the largest houses in this business are capitalized at over a million dollars and operate a number of factories running day and night. These are the growth of experience in running small canneries. The bulletin gives cuts to show the proper arrangement of a factory and lists of machinery and apparatus needed for factories of small or large capacity. A full chapter is given on processing, showing that the various products need different treatment for while tomatoes need 240 degrees heat for but ten minutes, corn requires a heat of 250 degrees for 55 minutes, and meats likewise, while plums and cherries are subjected to 240 degrees for but two minutes. The heat is required for the killing of all bacteria that may cause fermentation in the cans. Lists of tools for making cans are also given, but few canners now make them, as it is a division of labor that can be profitable to both sides for one concern to devote its capital to the manufacture alone. The bulletin gives a list of books on the subject and also a list of the leading houses engaged in the canning business, as well as other information of value.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts.,
Philadelphia.

ADVERTISING RATES.

Regular advertisements.................. 30 cents per line (Agate measurement.)
Reading notices .... 50 cents per line (Set in Nonpareil.)

Special location, 25 per cent. extra.
Cuts inserted without extra charge.

Discounts on and after November 1st, 1903.

ON BULK CONTRACTS WE ALLOW THE FOLLOWING:

1,000 lines, to be used within one year	10 per cent.
2,500 lines, to be used within one year	20 per cent.
5,000 lines, to be used within one year	30 per cent.

ON CONTINUOUS INSERTIONS WE ALLOW THE FOLLOWING:

Three months (13 times)	10 per cent.
Six months (26 times)	20 per cent.
Twelve months (52 times)	30 per cent.

The above schedules of discount cannot be combined.
No smaller advertisement than four lines inserted.

In order to change the address of a subscriber we must have the *former* as well as the present address.

We cannot be responsible for money sent in letters **not registered**, or in any other way than by P. O. Money Order, Bank Draft or Check.

When writing to renew your subscription you should be sure to give your name and address in full, otherwise we cannot find your name on our lists.

All subscriptions are discontinued at the expiration of the time paid for. Renewals should be sent in two weeks before the date on the address label, if you wish to continue a subscriber.

CONTENTS

AGRICULTURAL.—The Depth of First Cultivation for Corn and Potatoes.—To Accumulate Money Isn't Everything.—How to Control Draught of a Grate Fire. 257
Be Vigilant in the Care of Beans at Harvesting Time.—Good Roads. Why Farmers Should Favor Government Co-Operation. 258
QUERIES.—Sowing Crimson Clover.—Plant for Name.—Lime, Sulphur and Salt Mixture. 258
Home Mixing of Fertilizers.—Using Lime.—Feeding Roots to Hogs.—Growing Alfalfa in Illinois.—Iron Cow Peas. 259
LIVE STOCK AND DAIRY.—Cheese Making.—Value of Corn Concentrated Feeds. 260
Stock Queries.—Cow Stanchions. 261
VETERINARY.—Eczema.—Sheep Dip. 261
GARDEN.—A Fish and Potash Combine.—A Bean Bulletin.—Talks on Timely Topics.—Hairy Vetch for Seed.—More About Fish and Fish Waste.—Early Tomatoes.—Notes from a Carolina Garden. 262
HORTICULTURAL.—Covering Raspberry Canes.—Trees for Shelter.—Horticultural Query.—Girdling Grape Vines.—Horticultural Notes. 263
POULTRY.—Seasonable Suggestions.—Money in Handling Eggs.—Winter Broilers.—Fresh Laid Eggs.—Quality of Eggs.—Pointed Poultry Paragraphs. 263
EDITORIAL.—Hairy Vetch.—Taking the People's Money to Make a Few People Rich.—Fall Plowing.—Roadside Beauty. 264
CREAM OF THE BULLETINS. 264
COMMERCIAL. 265
HOME CIRCLE.—Practical and Hygienic Housekeeping.—While We Sleep.—A Word in Season. 263
The Bay View Reading Club.—Poison Ivy Remedy.—The Parlor.—Along Club Lines.—Correspondence. 267
OUR EXPERIENCE POOL.—Topic No. 595.—Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping? 268
SHORT CUTS BY P. F. SUBS.—Apple Butter Stirrer.—How to Dry Flowers.—To Can Corn and Beans.—Yeast Short Cut.—Domestic Hints.—Pretty Trifles for Ornament from Seeds.—Sewing Hints.—Lamp Chimney in Emergencies.—Plowing for Wheat.—Care of Milk Strainer.—Burning Sulphur in Poultry House.—Care of Grindstones.—Stacking Device.—Washing Soap. 269
POSTAL CARD CORRESPONDENCE. 272

Exchange and Profit

If our friends will look around them, over the farm and house, they will doubtless discover a good many things they do not want, but which other people do. Why not offer them for exchange through the Barter Column of the P. F.? If you want help, or want to hire out, or sell your farm, or exchange anything you don't want for something you do want, then an ad. in our

Barter Column

would probably accomplish your purpose. The charge is only one cent per word each publication, less than the cost of composition, no ads. of less than 25 words or more than 10 lines being admitted, and only when sent by a P. F. subscriber.

THE FARMER CO.,
Market & 18th Sts., Philadelphia.

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

October 17, 1903.

Offerings of wheat have been light and prices have advanced under stronger Western advices and bullish speculation there. Export orders have been limited below a workable basis. Corn ruled steady under moderate offerings, but exporters had few demands and local trade was light. Demand for car lots of oats was only moderate, but well maintained. Provisions were in fair jobbing demand. Flour has been firm in sympathy with the advance in wheat. Demand for live fowls and chickens is light and the market is unsettled under general pressure to clean up supplies. There was very little strictly fancy poultry in the market, and this class of stock was promptly cleaned up at outside rates. Unattractive fowls and chickens were in over supply, and were dull under general pressure to sell. There was no particular activity in the market for Western creamery butter, but demand was equal to the limited receipts of fine goods, prices of which were well maintained. Most of the supply showed faulty quality, and this class of stock had to be shaded to meet the views of buyers in order to effect sales. Imitation creameries and ladle-packed were in fair supply and dull at former rates. Prints were in liberal supply and quiet. Holders were generally able to get 22c. for strict extras, though some dealers complained of surplus stocks that had to be cleaned up at concessions. There was a good demand for choice new-laid eggs and the market ruled firm, with very light offerings of this description. Sales of nearby firsts were generally at 24c. "at mark," but some business was reported at 25c. "loss off." A large proportion of the nearby and Western receipts were mixed held and fresh eggs, were hard to move and had to be sold at the best rates obtainable. Refrigerator stock was plentiful and quiet. Supplies of cheese were liberal and the market was barely steady, owing to the indifference of buyers and to the recent decline at country points. Receipts of apples were fairly liberal and there was a steady outlet for choice fruit, prices of which were well maintained. Medium grades were in large supply and had to be sold at inside quotations. Quinces, pears, grapes and cranberries were in moderate supply, and firm under a good demand. There was a fair demand for white and sweet potatoes and the market ruled steady in the face of ample supplies. Onions were plentiful and dull. Cabbage was in fair request and steady, with moderate offerings. The market ruled steady for dried beans, but with moderate supplies prices ruled steady. Cotton was quiet, but prices advanced 20 points under stronger New York advices. Receipts of baled hay were liberal and the market was dull and barely steady. Straw continued in small supply and firm.

WHEAT.—

No. 2, red, spot and Oct.	83¼ @ 83½
No. 2, Penna. and Del.	84¼ @ 84½
No. 3, red	78¼ @ 78½

CORN.—

No. 2, spot and Oct.	50¼ @ 50½
No. 2, yellow	54 @ 54½
No. 3	48¼ @ 48½

OATS.—

No. 2, white natural, new	42½ @ 43
No. 2, white clipped	44

LIVE POULTRY.—

Fowls, hens, per lb.	11 @ 12
Roosters, per lb.	9
Spring chickens, per lb.	10½ @ 11½
Ducks, per lb.	12 @ 13
Turkeys, per lb.	11 @ 12

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	14
Fowls, average, per lb.	12½ @ 13½
Old roosters, per lb.	9
Chickens, nearby, per lb.	14 @ 15
Illinois, d. p., heavy, lb.	14
Western, d. p., fancy, lb.	13
Western, scalded, f'cy, lb.	11 @ 12

BUTTER.—

West. cream'y, 1sts to extra	19 @ 21½
Ladle packed	14 @ 16
Prints, nearby, 1sts to extra	20 @ 22
Imitation creamery	16 @ 18

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	25
Western 1sts, free cases, L	23
No. West., 1sts, free cases, L	23½ @ 24
So. West., 1sts, free cases, L	22 @ 23
So. choice, free cases, L	21 @ 22
Refrigerator, firsts, M	20½

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—	
Choice and fancy	12 @ 12½
Fair to good	11½ @ 11¾
State, part skims, prime	8½ @ 10
Domestic Swiss, No. 1	12 @ 13

GREEN FRUITS.—

Quinces, No. 1, per bbl.	4.50 @ 5.00
Quinces, No. 2, per bbl.	3.00 @ 3.50
Grapes—	
N. Y. Concord, 4-lb. bas.	12½ @ 13½
N. Y. Concord, per 100 lbs.	2.25
N. Y. Catawba, 4-lb. bas.	12 @ 13
Delaware, 4-lb. bas.	17 @ 19
Niagara, 4-lb. bas.	15 @ 17
California Tokay, per lb.	6 @ 8
Cranberries—	
Cape Cod, large late, bbl.	8.00 @ 8.50
Cape Cod, early Bl., bbl.	6.75 @ 7.50
Cape Cod, early Bl., crate	2.25 @ 2.50

APPLES AND PEARS.—

Apples—	
N. Y. fancy red, bbl.	3.00 @ 3.50
Kings, per bbl.	3.00 @ 3.50
Pippins, per bbl.	2.00 @ 2.50
Greenings, per bbl.	2.00 @ 2.25
Baldwins, per bbl.	2.00 @ 2.25
Maiden Blush, per bbl.	2.75 @ 3.00
20-ounce Pippin, per bbl.	2.50 @ 2.75
Pears—	
N. Y. Kiefer	2.00 @ 2.25
N. Y. Seckel, per bbl.	5.00 @ 7.00
N. Y. Bartlett, per bbl.	4.00 @ 5.50
Other varieties, per bbl.	2.00 @ 3.00

POTATOES.—

White, Pa., choice, per bas.	58 @ 60
White, N. Y., choice, per bas.	55 @ 58
Fair to good	50 @ 53
Sweets, Jersey, prime, bas.	30 @ 35
Sweets, seconds, per bas.	12 @ 15

VEGETABLES.—

Onions, per bu.	55 @ 60
Cabbage, N. Y., per ton	12.00 @ 16.00
Cauliflower, L. I., per bbl.	1.00 @ 1.50

BEANS AND PEAS.—

Beans, mar., H.P., 1902, bu.	2.90
Pea beans, H. P., 1902, bu.	2.35
Imported pea beans, per bu.	2.00 @ 2.10

COTTON.—

Cotton, per cwt.	9.80

FEED.—

Bran, bulk, winter, per ton	19.50 @ 20.00
Bran, sacked, spring	19.50 @ 20.00

HAY AND STRAW.—

Timothy, No. 1	15.50 @ 16.00
Timothy, mixed	12.50 @ 14.00
Straw, straight rye	17.00 @ 19.00
Oat	8.00 @ 10.00
Wheat	8.50 @ 10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle a shade lower.

Extra steers	5¼ @ 5½
Good steers	4¾ @ 5
Medium steers	4 @ 4½
Common steers	3½ @ 3¾

Veal calves active for good grades.

Extra calves	8 @ 8½
Fair to good	6½ @ 7½
Poor and common	4½ @ 5½
Grassers	3 @ 4

Hogs steady for good weights and quality.

Fat hogs, Pa., Del. & Md.	6½ @ 8
Fat hogs, Western	8½ @ 8¾

Sheep and lambs active.

Sheep, extra	4¼ @ 4½
Sheep, good	3¾ @ 4
Sheep, medium	3 @ 3½
Sheep, common	2 @ 2½
Lambs	4 @ 6¼

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NEW YORK MARKET REVIEW.

October 17, 1903.

Wheat was firm and higher, partly under the influence of foreign speculative buying and partly by reports of frost in Argentina, which latter have not been confirmed. This is the season when frost damage in that country is looked for, and for the next 60 days the crop conditions there will be closely followed. A cable stated that an exportable surplus of more than 75,000,000 bushels from that country is promised. The demand at Western points is firm. Spot corn is dull in the absence of a local demand. The trade has been mostly of a scalping nature, the slight advance cutting off the export demand. The general acceptance of a large crop has generated a dullness which is accentuated by reports that the crop conditions are fully maintained. The market for spot oats was firm with a dull trade. The receipts continue light, as a result of the railroad blockade. The demand for city consumption was only light. Hops are firm and higher prices are reported from up the State. Choice grades of barley are scarce and firmly held. Current receipts of butter are so small this week and trade so large that the market is in a good healthy condition. Fresh stock is in light supply, and large lines of storage butter have been used to meet actual requirements. Firsts show a large range of prices, owing to the wide difference in quality. Packing stock is scarce and wanted to the full extent of the offerings. Renovated butter is quiet, but held with confidence. The downward price of cheese has been checked, and there has been a slight improvement in the demand at the reduced rates, but trade is still disappointing. The unsettled state of the market has naturally made buyers timid in operating beyond present requirements, and there seems to be a general disposition to hold off and see if bottom has been touched. The late decline in Liverpool prices offers little encouragement for export business and local shippers take little or no interest in the market. There has been a large decrease in the receipts of eggs this week. There is a good market for first-class eggs, but medium and under sorts are dragging in a wide range of values. The weather is favorable for handling refrigerator stock and large lines are being withdrawn daily from storage. A few limed eggs are on the market, but we hear of no sales upon which to base prices. Much of the receipts of live poultry have been delayed in transit and opened up in miserable condition. Some scalded stock out of condition was urged at 7@8c. Choice grades of fowls and chickens displayed a steady tone, but heavy supplies made it impossible to advance prices. Spring ducks are firm and spring turkeys are dragging. Squabs firm. The receipts of apples were heavy, a good many going to Europe on outgoing steamers, but the proportion destined for this city is large. Unless the quality was beyond criticism they were inclined to sell downward. Cranberries are firm, though the movement is rather slow. Pears were in smaller supply, but owing to poor quality prices were weaker. Grapes from Western New York are showing exceptional quality and prices on small baskets rule firm and high. Maine potatoes are on the market and selling at a good price. Jersey sweet potatoes are coming in freely and are weak. Vegetables are in fair supply and command average prices under a moderately active consuming demand. Foreign beans are coming in freely. Domestic beans are quiet.

WHEAT.—

No. 2, red	85¼ @ 85⅝
No. 1, No. Duluth, new, f.o.b.	91⅛

CORN.—

No. 2, yellow	55
No. 2, white	53¾

OATS.—

No. 2	41¼
Standard white	43
Track white	42 @ 46

HAY AND STRAW.—

Timothy, pr., l'rg bales, cwt.	90 @ 92½
Timothy, No. 1	85 @ 87½
Timothy, No. 2	80 @ 82½
Straw, long rye, per cwt.	85 @ 1.15

BUTTER.—

Extra creamery	21
Extra factory	15½
State dairy	15 @ 19

CHEESE.—

State, f. c., small, fancy	11½
Good to prime	10½ @ 11
Large colored, fancy	11¼

EGGS.—

QUOTATIONS AT MARK.

State & Pa., fancy	26
State & Pa., seconds	21 @ 24
Western extras	25
Refrigerator	17 @ 21

LIVE POULTRY.—

Spring chickens, nearby, lb.	9½
Fowls, per lb.	11
Roosters, per lb.	6
Turkeys, per lb.	11
Ducks, West., per pair	60 @ 75
Geese, West., per pair	1.25 @ 1.37

DRESSED POULTRY.—

Turkeys, spring, d. p., lb.	12 @ 16
Scalded, per lb.	12 @ 14
Old, mixed, per lb.	15 @ 16
Broilers—	
Phila., fancy, large, lb.	20 @ 22
Phila., mixed sizes, per lb.	17 @ 18
Fowls—	
Ohio & Mich., scalded, lb.	11½ @ 12
West., d. p., av. best, lb.	13
Scalded, per lb.	11 @ 11½

APPLES AND PEARS.—

Apples—	
Ben Davis, per bbl.	2.00 @ 2.75
Spitzenberg, per bbl.	2.00 @ 3.00
Crab, per bbl.	2.00 @ 5.00
Greening, per bbl.	1.75 @ 2.25
Fall Pippin, per bbl.	1.75 @ 2.25
Maiden Blush, per bbl.	1.75 @ 2.25
York Imperial, per bbl.	2.00 @ 3.00
Hubbardston, per bbl.	1.75 @ 2.25
Ordinary, all kinds, bbl.	50 @ 1.50
York Pippin, per bbl.	1.75 @ 2.25
Pears—	
Common, per bbl.	1.00 @ 2.00
Bartlett, State, per bbl.	2.50 @ 5.50
Buerre d'Anjou, per bbl.	2.00 @ 3.00
Louise Bonne, per bbl.	1.50 @ 3.00
Sheldon, per bbl.	2.00 @ 3.50
Seckel, per bbl.	3.00 @ 6.00
Bartlett, per keg	1.50 @ 2.00
Duchess, per bbl.	2.00 @ 3.50
Kiefer, per bbl.	1.50 @ 1.75

GREEN FRUIT.—

Grapes—	
N. Y., Niagara, 4-lb. bas.	15 @ 20
N. Y., Concord, 4-lb. bas.	14 @ 20
Up-river, car., Delaware	1.25 @ 1.50
Up-river, carrier, Niagara	1.25 @ 1.50
Up-river, carrier, Concord	80 @ 90
Wine grapes, black, ton	45.00
Peaches—	
Up-river, carrier	2.00 @ 3.00
Per basket	50 @ 1.50
West. N. Y., carrier	2.00 @ 3.00
Quinces, per bbl	3.00 @ 5.00
Cranberries—	
Cape Cod, bbl.	6.50 @ 8.50
Cape Cod, crate	2.25 @ 2.35
New Jersey, bbl.	5.75 @ 6.75
New Jersey, crate	1.75 @ 2.15

VEGETABLES.—

Brussels sprouts, per qt.	5 @ 10
Beets, 100 bunches	1.25 @ 1.50
Carrots, per bbl.	75 @ 1.25
Cabbage, White Danish, ton	12.00 @ 14.00
Domestic, per ton	9.00 @ 12.00
Tomatoes—	
Jersey, per crate	35 @ 1.00
Delaware, per bas.	25 @ 35
String Beans—	
Norfolk, wax, basket	75 @ 1.00
Norfolk, green, basket	1.00
L. I. and Jersey, bag	50 @ 75
Squash, Hubbard, per bbl.	1.00
Cucumbers—	
Shelter Island, per bbl.	2.50 @ 5.00
Cucumber pickles, per 1,000	2.00 @ 4.00
Cauliflower	1.00 @ 2.50
Celery, fancy, per doz.	10 @ 40
Eggplants, Jersey, per bbl.	2.00 @ 3.00
Green corn, per 100	50 @ 75
Lettuce Boston, per doz.	30 @ 50
State and West., per doz.	25 @ 40
Lima beans, potato, per bag	2.00 @ 2.75
Flat, per bag	1.50 @ 2.00
Peppers, Jersey, bbl.	75 @ 1.50

BEANS AND PEAS.—

Beans—	
Marrow, 1902, choice, bu	2.90 @ 2.95
Common to good	2.50 @ 2.85
Medium, 1902, choice, bu.	2.25
Medium, 1903, choice, bu.	2.30
Pea, 1903, choice, per bu.	2.35
Pea, 1902, choice, per bu.	2.30
Med. & Pea, com to good.	2.00 @ 2.20
Black T. S., choice, bu.	2.65 @ 2.70
Lima, California	2.45 @ 2.50
Improved giants	1.60 @ 1.90
Italian, medium	2.05 @ 2.15
Other foreign, medium	1.95 @ 2.05
Green Peas—	
Scotch, 1903, bags, per bu.	1.35 @ 1.37½

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Practical and Hygienic Housekeeping.

MRS. ALIDA GREENE.

One of the most important questions which is occupying the American mind today is, how to accomplish the most work in a day with the least expenditure of strength and money, and at the same time retain health. This problem also confronts the housekeeper, therefore I will undertake to assist in its solution. The business scheme which is the most successful, is the one which is the most practical. There is no place where this fact is more evident than in the business of housekeeping. Many of the young ladies of today have little respect for this occupation, so little, indeed, that they seek to avoid all knowledge pertaining to it, but these same young ladies are as particular as any in the land about being served with well cooked and appetizing food, and may often be heard to complain if forced to endure an untidy and unclean house. Housekeeping is as much of an art as picture painting, music or sculpture, and one who makes a success of it must study it as faithfully as those who aspire to become an artist in any other line.

First, we will consider the practical side of home making. We will begin with the kitchen, for here is where our food is prepared and has much to do with our life and health. This room should be large and airy. Have the floor painted or covered with oilcloth. It will then be easy to keep clean. Paper the walls with the new kind of varnished paper which resists the steam and may be washed off when it becomes soiled. Another way is to paint the walls. Have all work tables and sinks arranged so as to take as few steps when at work as possible, and also have them of proper height so as to prevent stooping when working at them. Have several holders with brass rings; hang them near the stove so as to have them handy for use when handling hot kettles and dishes. Buy good ware for cooking utensils; it pays in the long run. Aluminumware is very fine, because it is the same all through, but it is rather expensive. By all means have a good cooking stove. Many dollars' worth of food are thrown away because of a poor stove. Have a place for everything and keep everything in its place. One should have a kitchen cabinet. If too poor to buy one, make one, by fixing a box on the top of a work table. The box should have two shelves, one shelf to be used for spices and all condiments, the other for small baking dishes, knives, forks and spoons used for cooking, etc. Hang a curtain to the box, or have doors and it makes a practical cabinet and very inexpensive. One may make it an ornament by painting it and the table with a suitable color. Have an emergency box in the table drawer. This box should contain a box of good salve, a ball of narrow pieces of white cotton cloth, a ball of fine twine, some court plaster, fingers cut out of old kid gloves, with tape sewed on to fasten around the wrist, and a pair of scissors, needles, thread and thimble. If an accident occurs everything is ready and handy for use. Wash all cooking utensils as soon as used, or, if impossible, scrape them and fill with water. Take a brush broom, tie a string or twist a wire tightly around it in the middle; use it, with water, to clean out dirty dishes before washing them. Have made, or buy, a large granite pan; have made a tin, with small holes all over the bottom, that will fit in the pan four inches from the bottom. Pile the crockery in this pan after washing, pour boiling water over them and drain until dry. Hang on the wall a small pad of paper and pencil with string attached; when out of any article of food write it on pad so as to forget nothing when marketing. Have a small scrub brush to clean vegetables. Before beginning work in the morning think over all there is to do and plan the order in which it should be done and the quickest and best way to do it. I have given a few of the many practical ways of working, and will next consider the hygienic side of home-making. First, have plenty of light and sunshine in all your rooms. The sun is a great health giver and drives away the vicious microbes, which would destroy our bodies. Air the sleeping rooms five or six hours every day, with bed open. Always sleep with a window up in room, but avoid drafts. Air the whole house every day; keep all the window shades up throughout the entire house, except when too hot. Better have faded carpets and furniture than faded and sickly people. Keep everything as clean as possible. Microbes breed in dirt and decay, therefore allow no vegetables to rot in the cellar or around the house in the yard. Keep a box of chloride of lime standing in sinks and use it freely several times a week. Fumigate the house all through four times a year at least, with sulphur. Boil the dishcloth in water strong with washing powder, three times a week. Air out all cupboards every day. The housekeeper should study to keep herself as fresh, clean and healthy as possible. This is quite simple if a little thought is given to it. Bathe every night. One need not get in a tub, but take a sponge bath and use a coarse brown towel to dry the skin, rubbing vigorously to increase circulation of the blood. After standing over a hot stove, or doing heavy work, such as sweeping, the skin is moist with perspiration, and for health as well as comfort, should be bathed. One should take a few physical culture exercises every morning, so as to keep in shape and health our bodies, which God has given us. Wear good washable print dresses and long aprons (with or without sleeves) made of gingham when at work; wear a cap when sweeping, dusting or baking, to keep the hair clean. Wear all clothing loose, so as not to restrict the movement of any of the muscles. Wear comfortable, low-heeled shoes. Have a cosy corner in the kitchen, with table, on which is some light work, good reading matter, etc. Put a rocking chair here, and when there are a few spare moments, sit down and rest and thus avoid getting overtired. Strive to keep cool and not get nervous, as it wholly unfits one for work and often brings on disease. Do not try to do too many kinds of work at a time. The truly artistic housekeeper will find many ways in which to display her taste. She will find that in order to have a beautiful home she must have a harmony of colors. It is not so much what we spend as how we spend it in furnishing our homes. She will not have all the colors of the rainbow in one room, simply two or three colors, and she will so arrange things as to have the most comfort and beauty for the least expense. I suggest having plenty of plants, but do not put them in the sleeping rooms. Always set the dining table with great care, and whenever possible have a bunch of loosely arranged flowers in the centre of table. When flowers cannot be had, a small plant is pretty.

By all means study hygienic cookery. No home can be fine enough to give much pleasure to one who is ill, and badly cooked food will bring on disease as quickly as any one thing. In short, use all your God given sense to make the home healthful, happy and beautiful, and you will be repaid by healthy, happy children, and a husband who will rise up and call you blessed; or if he does not, he will not deserve a good, faithful wife. There are many more good things which might be said, but a word to the wise is sufficient.

Chautauqua Co., N. Y.

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While We Sleep.

MRS. R. E. MERRYMAN.

If we could realize how much of our good health or illness can be traced to the condition of our rooms during our sleeping hours, very few of us would talk so resignedly about the "mysterious Providence," which gives one good health while her neighbor, without any apparent reason, must suffer from all sorts of miserable feelings, and perhaps get so run down as to have nervous prostration or some other disease.

It just makes me tired (no slang intended) to hear such talk. Why don't they go to work like sensible people, to find the cause of those bad feelings, and then, if possible, remove it? In a large number of cases it will be found that the ailing one sleeps in a close bed room, with windows and doors closed, even in summer, for fear of "taking cold." Perhaps a transom is left open, or there may be a window at the end of the room furthest from the bed, left open a little way, but a screen of some kind will be arranged to keep a possible breeze from disturbing the layers of noxious gas and foul air hovering over the bed. Possibly the slop jar by the washstand, and other vessels, are left open to add their contribution to the healthful (?) atmosphere of the room. In keeping with these conditions is the scant care which the bed room receives in the day. The bed is left covered, just as the occupant crawls out of it, until the maid is ready to make it, when it is hastily "made up," a little dust swept from the middle of the room, the slops poured out with a slight rinsing of the dishes, and the room is left for the day. Perhaps a window was raised but more likely it was forgotten. Is it any wonder that such a room turns out weary and ailing people after they have occupied it every night for a time? How could it be otherwise? The air, under such conditions, must be foul, and the tired body, instead of being strengthened by the purifying action of fresh air in the lungs, is made more weary by the poisonous gases.

Every intelligent person knows that the impure blood, after its course through the body is supposed to be cleansed in the lungs by the action of pure air. But if it meets only foul air what must be the result?

Why will people be so careless when it requires very little more work to have the sleeping rooms fresh and healthful? The bed should be aired when rising in the morning, by shaking each cover and pillow, and spreading them over chairs where the fresh air from open windows can reach them. After a few hours the bed should be made up, thoroughly beating the mattress and turning it frequently. The slops should be emptied and the vessels well washed, scalding them often enough to keep out any odor. The floor should be well swept and the furniture dusted, or, what is better, the floor may be wiped up with a mop wrung from weak Gold Dust suds. This takes up the dust without filling the air with it and removes spots and tracks from the floor. A bed room should never be covered with carpet, but should be either oiled or painted. Even a soft wood floor with diamond wood stain and two coats of oil, looks very much like hardwood, and will not scale up as paint sometimes does, but if the floor is not smooth the paint will cover it best.

Heavy curtains are out of place in sleeping rooms, as they hold so much dust and foul air in their folds. Light, airy curtains are best. At night every window should be left open in warm weather, and even in cold weather there should be a circulation of air. If one is sensitive to draughts at first, screens or chairs with a sheet thrown over them may be used to shield the occupant, but even this will not be needed after one becomes accustomed to the air.

Melrose, Fla.

◆

A Word in Season.

C. M. HUNT.

A few weeks since the writer saw a man poke his gun through the fence and aim as though there were some ferocious animal near. We stopped a moment, and to our surprise, when the gun fired, two beautiful red birds flew away. We told him that the laws protected the birds and that he ought not to kill them anyhow. He cursed at the laws and the law-makers, which proved his ignorance about that which he tried to curse so vigorously. This made me feel sorry for him, and many thousand other such men and boys who would profit by giving the time they throw away hunting birds, to watching the parent birds raise their young. The writer, on one occasion, for hours at a time, watched a pair of house wrens feed a family of four for several days. One day when the young were about half fledged, we watched very closely for an hour, at the close of which time the parent birds had made 31 visits to the nest, feeding to the young about forty insects in all. Insects identified were 21 spiders, 2 earth worms, 3 cut worms and one house fly. We feel sure that we are not exaggerating to say that this family of birds destroyed 8,000 insects, to say nothing about what the old birds ate. Now suppose that 60 such families are raised on the plantation; they will destroy half a million insects in a single year. Among these may be some poisonous spider or other insect which may have bitten you or someone in

the family, causing much trouble and a doctor's bill as well. When we look at its beauty, listen to the sweetness of its song, think of its benefit to man, does it not seem a wonder that anyone could so far forget his better nature as to hunt down a bird as though it were a pest? The religious and political papers should all have a bird column and the farm papers ought to be "insistent in season and out of season" until all people who read farm papers are ready to take up the cause of the protection of our fluffy friends. Mothers, teach your boys while yet at a tender age, the sinfulness, as well as the financial mistake of killing the birds just for the sport in it.

Rutherford Co., N. C.

[Thank you, brother, for this "word in season."—ED.]

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The Bay View Reading Club.

One of the popular educational institutions of today is the Bay View Reading Club. It has a thousand local clubs and over 12,000 members. It is organized in nearly every State and in other lands. In the past two years and a half over five hundred woman's and other literary clubs have adopted its courses of study. The originator of the organization is John M. Hall, who is still at the head of it, aided by several assistants who are trained for the work. The Bay View courses endeavor to offer an intelligent plan for home study and save the members from the confusion resulting from the abundance of literature of the day. The courses are brief, simple in plan and comparatively inexpensive. The courses are delightful reading journeys, wherein the country's history, literature, art and music are deftly combined in a study. This fall the Club begins the study of Germany, and will make side trips into the delightfully interesting kingdoms of Belgium and Denmark. Circulars giving general information can always be obtained by addressing Mr. Hall, 165 Boston Boulevard, Detroit, Mich.

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Poison Ivy Remedy.

SUSAN TODD TREAT.

I have just run across an article published in the P. F. of March 8, 1902, which in some way went unnoticed at the time of issue. The article was written by Edgarda Williams Cole in regard to poisonous plants and their remedies. Please let me urge all the P. F. readers, who suffer with ivy poisoning, to try my remedy. It is sure and quick relief. We always keep it in the house, because all three of my little folks poison as easily as I do; and we find that, unless the poison is let get a start and begin to spread, a single application is sufficient to end it. This is the remedy: One part ichtyol; one part vaseline; mix well. Rub the irritated skin thoroughly with this two or three times a day, or as often as the itching returns. This mixture is good for any itching of the skin, but is not a salve for cuts, burns or bruises.

Todd Co., Minn.

◆

The Parlor.

LILIAN W. GILBERT.

I have been an interested and amused reader of the H. C. in the P. F. for years. For the first time come forward to contribute to this interesting department.

What strikes me most forcibly is the different ideas of cleanliness advanced by my sister farmers' wives. While one spends her time and strength brightening the kitchen another emphasizes airing the bed room. While one destroys the microbes in the cellar another sweeps cobwebs from the attic. I see many, many articles on all these apartments, and now I have a few words to say for that seemingly almost forgotten room, the parlor. By parlor I do not necessarily mean a stately apartment abounding in plush and Brussels. Perhaps many would not dignify the class of room I speak of now with the name of parlor, but would give it the more humble name of spare chamber or company room, for often it serves the double purpose of bed room and parlor. This room is the one oasis in the dusty desert of housekeeping. Here order reigns when all else is in confusion. This room brings no blush to the good wife's cheek as she ushers in unexpected company, usually the minister or public school teacher. Here we have the sweet odor of freshly whitewashed walls; white muslin curtains flutter in the breeze as the windows are thrown open. Lace-edged pillow shams and snowy counterpane cover the puffs of feather beds and pillows. On a small oaken table lie the photograph album and the big family Bible. The little girl's wax doll smiles benignly down from a bracket shelf, while the gilt wheels of little Bob's toy engine twinkle merrily on the tall mantel, safe from the fat little fingers that would soon make a wreck of it. When the children invade its sacred precincts they step softly as if they trod on holy ground. They finger reverently the clasp of the family Bible and linger before the picture of their grandmother and wonder if "Heaven where grandma is" is so very far away. Here the grown daughter entertains her rural beau safe from the titter and jest of her little brothers; here, too, she stands a blushing bride arrayed in white. On that table by the window the little dimpled baby that died last year, lay in its white casket. Here the tired mother steals, away from the noise and dirt and flies, lies down on the rag carpet to rest and sleep a quiet nap. Blessed room of rest and peace, and often of prayer. What sweet memories cling around it!

Palmyra, Va.

◆

Along Club Lines.

From what we "hear" some club notes will not, from time to time, come amiss. We preface by urging the sisters to form clubs in their own neighborhoods. It will do you good.

The new programme of our Twentieth Century Club lies before us—cream-colored with gold lettering and tied with green. Our colors are green and gold; our motto for this year: "Study to be what you wish to seem." Below this is the stanza:

"What is a woman's club?
A haven fair
Where toilers drop for an hour
Their load of care."

On the next page is the list of officers and standing committees, and then the programme of each day has its page. We give the one for the first meeting—October 5th—just as it stands:

"We have tried to please. Tell us, ye sovereigns of the new domain,
Are ye content, or have we toiled in vain?"

October Fifth.
Roll Call Newspaper Items.
Reading of Minutes.
Business. Critic's Report.
President's Address.
"German Empire and its Divisions."
(Extent, physical features and natural resources of soil.)
Vocal Solo.
"The Early Germans. Their Manners and Customs."
Selection. Hostess.

We would gladly hear from other clubs.

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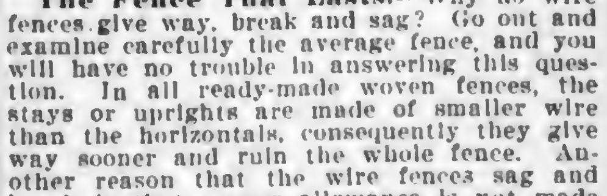
Correspondence.

Speaking of strawberry culture, B. F. Rathman, Hudson, Ill., writes: In the first place, you must have good soil to begin with. A good clay soil, well prepared, well enriched and fall plowed, is, in my experience, the best of all soils. Of course there is a difference in variety of strawberries, but space will not permit me to enter into details in that direction. In the next place, you must have good plants set 3 to 4 feet apart. They must be set in straight rows and well set so they will all grow and make a nice and even stand. You cannot afford to have skips in your field, as that will cut short your yield of fruit. You must not let your plants mat too thickly or they will rob each other of fertility and make small, puny plants, and a small plant cannot possibly make a large berry. As to fertilization I cannot here enter into details, but would say, set as often as every seven or eight rows of some fertilizer variety, although I have raised just as fine berries of pistilate variety without fertilizers planted near them, but would not advise anyone to take this for example, as I would not do it on a large scale myself. Then in the next place, and above all things else, one must have a love for the work. One must love the plant as well as the fruit, or better, the plants must be your pets. The hoe must be your companion, and it must be kept sharp and bright and you must at all times be ready and willing to use it. In a dry season keep up the dust mulch; don't be afraid, you will hurt or kill your plants by stirring the soil in a hot and dry time. On the contrary, you will keep your plants growing right along. As to varieties, you must be careful to select those that have proved a success in your locality. Don't plant new varieties as a commercial crop, and nine times out of ten you will fail by doing so. Don't understand me to say the new varieties are not good, but the fact is, they have not been proven, and should first be tried in an experimental way. Now, in conclusion and in summing up the whole matter, I will say that good soil, good plants properly planted and well tilled, and a love for the work will make success yours.

M. N. Edgerton, Petoskey, Mich., writes: We pity the woman who must, year in and year out, prepare three meals a day with nothing but meat, bread and potatoes to put on the table. Or, perhaps, with the aid of the children, she does, by scouring the "old choppings" and "fence corners," secure a few quarts of berries. These, because they are so dearly obtained, are "put down" for winter use. The farmer's family who "have berries" after this fashion have no idea of what they are missing by not having a full supply of the real thing right at the back door. It seems so foolish for any family to go without these luxuries (to me they are necessities) when a single half acre may easily be made to supply any ordinary family with an abundance of fruit the year around. The mere enjoyment of having such a fruit garden should amply repay any farmer for any and all expense necessary for its maintenance, and then there is better health in eating plenty of fruit and less meat and potatoes. Lack of space prevents us from going into details in regard to the culture of small fruits, but there are a few desirable and necessary conditions which we will mention, trusting that someone may be benefited thereby. The soil should be at least fairly rich and put in good tilth before the plants are set. It is very much better that the rows should be as long as possible in order to facilitate cultivation. The piece of ground selected should be thoroughly drained, as all fruits will not only do much better, but much of the work of cultivation may then be done at odd spells, perhaps after rains, while the soil in the main fields is yet too wet to work. Doing the work thus at odd spells the time will never be missed. Anyhow, if done on time and in order, this garden will be a place of recreation and enjoyment. There may be children who would consider it "fun" to keep such a garden in trim. Aside from the necessity of having a good soil and the garden conveniently located, the most important factor entering into the possibilities in a farm fruit garden is this: All work must be done in season. The surface soil should be kept constantly stirred, for this will keep the moisture in and the weeds out, insuring quality and productiveness. Once over the garden with a cultivator or weeder every week may seem like spending a lot of time on a piece of ground, but if the rows be long and straight very little hand work will be necessary, particularly so if a horse weeder is used. Strawberries should be cultivated the whole season through and a mulch applied in November, but with the bush fruits cultivation should be discontinued about August 15th. Three or four bushels of oats or peas per acre should be sown just before the last cultivation. Fruit means health. Health means wealth—wealth of pleasure and enjoyment.

◆

The Fence That Lasts.—Why do wire fences give way, break and sag? Go out and examine carefully the average fence, and you will have no trouble in answering this question. In all ready-made woven fences, the stays or uprights are made of smaller wire than the horizontals, consequently they give way sooner and ruin the whole fence. Another reason that the wire fences sag and break is that proper allowance is not made for the expansion and contraction caused by changing weather. Both of these difficulties are entirely overcome in the famous Brown fence. The uprights are of the same size as the horizontal wires and the laterals are made from high carbon, hard spring coiled wire, which not only allows for all contraction and expansion due to changes in temperature, but also relieves the posts of much of the dead pull upon them. It is an economical fence to build, and even if it cost more than others (which it does not), it would still be the cheapest in the end. Our readers are urged to send for the Brown Fence Book. Address, Brown Fence & Wire Co., Cleveland, Ohio. This company is headquarters not only for the Brown fencing, but also for coiled spring wire, soft, smooth galvanized wire and barb wire, which they sell to the farmer direct from the factory at wholesale prices, guaranteeing both quality and price. Mention the P. F. when writing.



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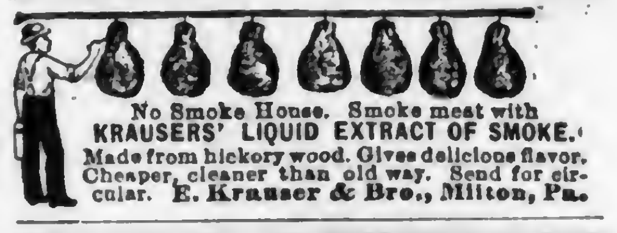

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Topic No. 597, Nov. 7.—*Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and with What Success?*

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 595.—Have You Made Cherries Pay as an Orchard Crop for Market? If so, How and What Varieties are Best for Shipping?

A. J. Umholtz, Tum, Ark.—Cherries here always pay well. The demand is nearly always greater than the supply. I received this year $2.25 net per crate of five and a half gallons. I have never known cherries in this section to be less than 25 cents per gallon, and from that to 40 cents per gallon. The only trouble we have is to get some variety of a cherry that is not caught by the late frosts and is a sure bearer. All I have tried bloom so early as to be caught by the last heavy frost or freeze we have in spring. The kinds we have had the best success with are the May cherry, a large red, sour one that ripens in May, and is propagated by the sprouts which come up all around the trees from the roots; and the June cherry (so-called here). It ripens in June, is a rather small cherry, nearly black in color, of good flavor and shipping qualities; but it is not a very prolific bearer, and blooms quite early. It also sprouts considerably and is propagated from sprouts. Both of these kinds of cherry trees are hardy, and, as far as I know, free from disease and borers.

C. C. Beals, Russiaville, Ind.—Cherries pay as an orchard crop for market when rightly treated and taken care of. To start with, the soil should be rich and well underdrained clay loam. If the ground is too wet the trees will be short-lived and will prove a dear investment to the owner. A good way to do is to plant them in an apple orchard between the trees, and a row of cherries between the apple rows, thus making two crops on the same ground as the cherries will be dead and gone before the apple trees are at their best. For the first few years the orchard is cultivated with some hoed crop that does not rapidly exhaust the soil fertility. The trees require little pruning except the removal of dead and undesirable limbs. An application of manure every few years will keep up the fertility of the soil. After the trees come into bearing they should be sprayed two or three times each year for the insects. Early Richmond, Montmorency and Dyehouse are good varieties.

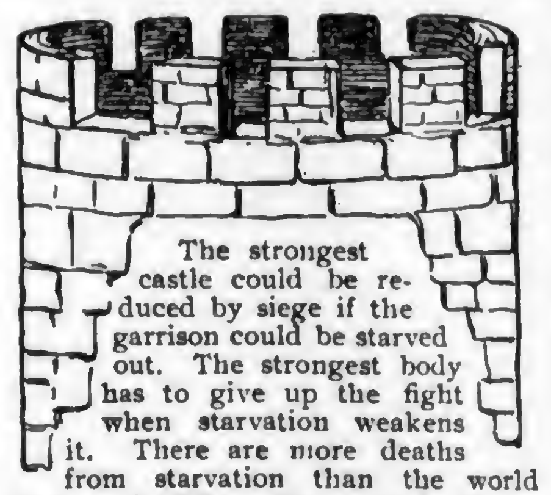
B. P. Wagner, R 1, LaBelle, Mo.—We sell some cherries each year to the local dealer and our neighbors. Have never shipped any. We grow the Morello and the Early Richmond. Yes, they pay a profit, but there is only a limited demand for them.

William C. Aiken, 8207 Hoover Street, Los Angeles, Cal.—Experience with cherries for profit as an orchard crop for market has shown that they should be planted only in localities where the fruit reaches perfection, and is known to succeed. A distance of a few miles only, the lay of the land and other conditions will often make a difference between failure and success. In this part of the world the early markets are the only ones of much profit. In the coast counties of California cherries ripen a month or six weeks in advance of Eastern and more Northern seasons, giving a very profitable monopoly of the markets, hence we want only the very earliest ripening sorts, with quality as a second consideration. Were I, next season, to plant an orchard I would give Black Tartarian first choice for early ripening, with Royal Ann a second choice, confining my selection only to these two varieties for shipping. How best to ship is a question for every grower to decide. Different sections require the crop to be handled to suit requirements. I should pick my fruit very carefully and pack in clean, new boxes holding five to eight pounds, if I expected top prices. The main crop cherries handled by the cannery trade, could be shipped in more bulky packages. Topic No. 572 gave much information about the subject.

J. W. Witham, Clive, Ia.—We have about 8 acres of cherries, planted one rod apart, as a rule, each way, or 160 trees to the acre. There are some sixteen varieties in all, though most of them are Early Richmond, Montmorency, English Morello, Wragg and Ostheim. We ship all these varieties in boxes, crated, and also from 60 to 100 miles in baskets. These cherries, for a period of ten years, will safely average one basket to a tree. The price is usually $1 per basket, making the gross income $160 per acre. Fifty cents per basket covers the cost of picking and marketing, so that the net income amounts to $80 per acre after the trees are fully grown, which takes eight years in this section. From each acre during the life of the trees, therefore, we expect to receive $800. The original cost of the trees and setting we figure at $75 per acre, which includes incidental losses. The subsequent cultivation until the trees begin to bear, if properly attended to, say for five years, would cost about $25 per year, or $125, making the total cost $200, leaving $600 as the net profit per acre for 18 years, or about $33 per acre. We regard this as a conservative estimate based on actual experience. As to varieties the Montmorency is the best all-around cherry we grow. The Early Richmond is a sure cropper but too juicy and soft to ship far. The Wragg is a very hardy cherry, but takes so long in ripening that unless protected the birds play havoc with them. The Ostheim is a choice variety, but the stems do not adhere to them in picking, which detracts from their appearance. We have the leading Russian varieties but they do not produce fruit in paying quantities, nor do any of the other varieties not named, unless it be the Late Richmond. We also consider that cherry trees on their own roots are more hardy and surer croppers than when either budded or grafted.

SUMMARY.

The subject of growing cherries for profit seems to have attracted little discussion, though it is well known that in many sections the cherry is an important market crop. We had hope that we would have had more from our California friends, whose beautiful fruit and neat packing are now so well known in the Eastern markets. In some sections in the East the cherry crop is assuming importance, and if the growers would adopt the neat and effective packing of the California growers they could reap greater profits. In the upper Piedmont country of Virginia and North Carolina the crop could be made fully as good as in California, for while the finer cherries are uniformly a failure in the warmer parts of the South, they are a great success in the more elevated sections, and even with the rougher packing in strawberry crates, the cherries from the mountain country of the South have sold for nearly as much as the California product. The Virginia growers find that the finer Bigarreau and Heart varieties are very profitable, and in some sections the early varieties of the sour cherries have been found to pay well. Of these the Early Richmond and Montmorency have been more largely planted in Maryland, Delaware and Pennsylvania than others. In our boyhood there were on the Eastern Shore counties of Maryland, a great many immense cherry trees which were uniformly productive of great crops of fruit. In recent years these gigantic trees seem to have largely disappeared, and few trees have been planted to take their place, and the cherry seems to be a neglected fruit in sections where formerly the finest varieties throve. In the warmer section of the South Atlantic coast cherry trees flourish and bloom, but, as a rule, never bear a crop, the only varieties thriving are the Dukes and the Morello sorts. But where the cherry thrives, as it does in the mountain section of the South, there is no reason why they should not be made a profitable market crop if packed in the neat boxes the California growers use so successfully. In fact, in these sections of the South, where the crop can be had as early as the California product, it would seem that greater profit could be made. We do not think that the plan of Mr. Beals will be a good one, for cherry trees grow too large to be planted in an apple orchard, and are not so short-lived as he seems to think, if they are properly cared for. The giant trees I have mentioned as formerly existing on the Eastern Shore of Maryland, were certainly fifty to one hundred years old when we knew them, for, as a bare-footed boy we have walked out on the great limbs as we would on a foot-bridge. The Bigarreau and Heart varieties are the finest and are long-lived trees where the climate suits them. We have a Gov. Wood here that has been planted about 17 years, and in that time has perhaps borne a gallon of cherries. But if this tree was in an apple orchard the apple trees would stand a poor chance, for it seems just now to be only getting into its prime, and may finally go to ripening a crop, as it has made the few it has borne in the past two years. The sour cherries are of dwarfer habit and shorter-lived, and they might be planted among the apple trees profitably. But, as a rule, the only trees we would use for filling in between apples are peaches, for we know that these will be out of the way in time for the apples to occupy the land. As Mr. Beals mentions only the sour cherries, it is probably these which he means for planting in the apple orchard. None of our contributors seem to have had any experience with the finer cherries, except Mr. Aiken.



The strongest castle could be reduced by siege if the garrison could be starved out. The strongest body has to give up the fight when starvation weakens it. There are more deaths from starvation than the world dreams of. When the stomach is diseased and the food eaten is not digested and assimilated, then the strength of the body begins to fail because of lack of nutrition, and the weak body falls an easy victim to the microbes of disease.

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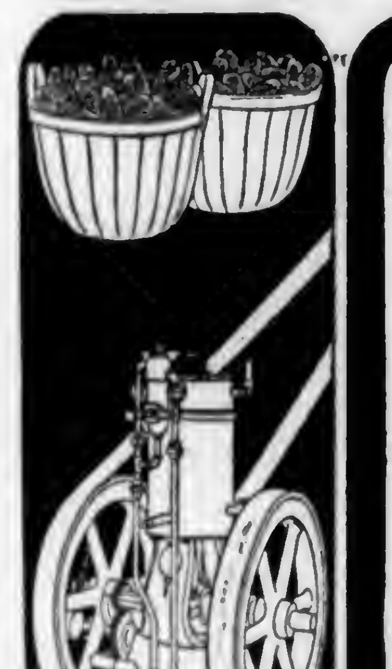

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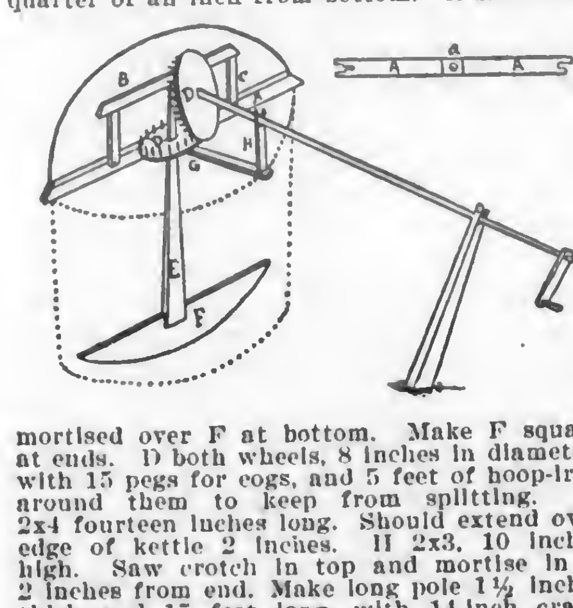
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Apple Butter Stirrer.—A good stirrer can be made in a day, by anyone who is handy with tools. It will only cost ten cents for hoop-iron for the wheels. It can be used by a child, and there is no danger of the apple butter burning as long as it is kept in motion. We have used this stirrer for several years and think it a great improvement over the old one, and much easier for the woman, as she has most of the apple butter to make. This stirrer will fit a 20-gallon copper kettle. If you have a larger or smaller kettle, change sizes accordingly. It can be made to fit by cutting piece A the width of your kettle. Piece A 2x4, width of kettle, or 2 feet 3 inches long. B 2x4 one foot long. C C 7 inches high and mortise in A and B. E depth of kettle from B. F 1½ feet long, a quarter of an inch from bottom. E should be mortised over F at bottom. Make F square at ends. D both wheels, 8 inches in diameter, with 15 pegs for cogs, and 5 feet of hoop-iron around them to keep from splitting. G 2x4 fourteen inches long. Should extend over edge of kettle 2 inches. H 2x3, 10 inches high. Saw crotch in top and mortise in G 2 inches from end. Make long pole 1½ inches thick and 15 feet long, with 14-inch crank on one end and cut other end to fit ¾-inch hole in B, and put small pin in end; a, in piece A is 1½-inch hole with block around to keep wheel from rubbing too hard. Be careful to cut ends of A correct, or you will have trouble in getting it in.



R 1, Lancaster, O. J. W. PHILLIPS.

How to Dry Flowers.—To dry flowers place them in a large, shallow pan or box and sift over them gently the finest, driest sand, giving them a bed of this sand at first, of course. By sifting it over very gradually and carefully the sand atoms will slowly form about the flower, which, because of the gradual drifting about and piling up of the atoms, keeps its shape even to the most delicate curling. After the flowers are all well covered from sight, keep the pan or box exposed to a gentle heat for some days, after which it is left to cool slowly, and the flowers, ferns, grasses, etc., thus treated are found to have kept their natural forms, and with very little perceptible difference in color. This is an old German method, and one that is most successful.

Fairview, Pa. SOPHIA MARKWOOD.

To Can Corn and Beans.—Take eight heaping cups of string beans or corn; one cup of salt; one cup sugar; two cups water. Boil 20 minutes. When canning beans leave the sugar out. When I open a jar in the winter I soak a couple of hours before using. I never had any to spoil, and have kept them over two years. MRS. D. N. SWEENY.

Freeland, Md.

Yeast Short Cut.—Does the yeast jar need replenishing, and you real tired? Don't go to work and "make yeast." You will have boiled potatoes for dinner, anyhow, so pour off about a quart of the potato water, add to it two tablespoonfuls of sugar and one of salt, and when milk-warm pour in yeast jar and set in a warm place half an hour. This will keep a week and makes good bread. Try it. MRS. E. B. LANGSLOW.

Box 33, Farmville, Va.

Domestic Hints. — Always stand an umbrella on the handle instead of the end. The ribs will not spring apart, and it will last much longer. A tried and sure remedy for warts is to put castor oil on them two or three times a week; they will soon disappear. MRS. L. M. PULLIAM.

King, N. C.

Pretty Trifles for Ornament from Seeds.—Cantaloupe seeds, dried in the sun until they are easily separable from the pulpy filaments that hold them together, and then thoroughly washed and dried again, are as pearly and pretty for decorative purposes as any shell or coral a hundredfold the cost. These little buff-colored seeds are especially nice for screen and portiere work, in which they are used as if they were beads or shells. Waxed thread or silk, or, better still, extremely fine, pliable wire, may be used to string them on. It is a matter of taste whether the seeds be used lengthwise, sidewise or laid flatly, one on top of the other until they point in all directions, like the strings of uncut coral. Of course, many more strings of them are required when they are used vertically, but this arrangement gives an extremely delicate and graceful effect. For stringing, seeds should be used when not thoroughly dried, as they are then less apt to crack. A pint of prepared seeds should be reserved by the possessor of screen or portiere, as with the artificial heat in winter a few may split and fall away from the wire. The two halves may be replaced with the help of a drop of glue, or a whole new seed from the pint in reserve.

A CITY READER.

Sewing Hints. — Nothing betrays the novice in dressmaking quicker than to see ruffles or folds cut on the wrong bias. To be right, lay your goods on table right side down, with end toward you; then turn back right hand corner so that the selvage is even with crosswise thread, or filling, of goods, then cut on fold thus made. The seams will then be right in your hemmer, and when frills are on the seams run from right, at top, to left, at bottom. This is a little thing, but striped goods show the wrong cut particularly. In piecing gores, or anything when two piecings are alike, it saves time to baste the small pieces on either side of the large ones, basting through the four thicknesses at once, separating with thumb and fingers as you run them through machine.

Plessis, N. Y. A. E. STORM.

Lamp Chimney in Emergencies.—A chimney taken from a lighted lamp, says an exchange, is an excellent hot application in case of an emergency. Slip the chimney into an old stocking, take a damp warm cloth and wrap around the chimney. If the required heat is for cough or for the croup, wrap the chimney in a flannel rag smeared with mutton tallow and turpentine. Applied to the chest or throat, relief will be had almost at once. The lamp chimney is especially practicable during the summer months, when the fires are out, for the lamp can be lighted and the hot applications secured in a few minutes. Croup, colic, toothache, coughs, rheumatic pains and many other ills flee before the hot lamp chimney. H. E.

Plowing for Wheat.—I used to wait until it was time to sow before commencing to plow my sod land, and then hurriedly harrowing and sowing. Oftentimes it would be a dry spell, and dry, hard lumps would be my seed bed. By commencing plowing a month or six weeks ahead of time for sowing, and by frequent harrowing of the ground after every rain, I have a fine, firm and moist seed bed when sowing times comes, which is in the fore part of September. Wheat cannot help but do well when sowed like this, while wheat sowed the other way will not pay for the expense of putting in.

Cazenovia, N. Y. LEWIS W. DAVIS.

Care of Milk Strainer.—If those that have trouble in keeping a fine milk strainer clean would rub dry salt through the screen they would have no more bother. The salt pushes the obstruction through where a cloth could not get at it. Cleanliness should not be overlooked in milking, though, at the same time. O. SUNSTEDT.

Gypsum, Col.

Burning Sulphur in Poultry House.—Sulphur is an excellent disinfectant when burned in the poultry house, but as sulphur melts and smothers the flame, it is often difficult to burn it satisfactorily. One way to do it is to dissolve one-half pint of pine tar and one-half pint of turpentine in a half gallon of kerosene in an open vessel. Soak in this solution large corn cobs until they are well saturated, then take them from the solution and dust on them all the powdered sulphur that will stick to the cobs; stick a stiff wire in the large end of cobs and push the other end in ground in centre of the house. Now remove all the combustible matter inside and set fire to the cobs; close all the doors and other openings and allow the fumes to penetrate every nook and corner, and the lice and mites will be destroyed.

Hunt, Ark. A. D. PRICE.

Care of Grindstones.—When a grindstone grows out of true, or gets hollow in centre, set a spade with handle against the ground and blade to stone and turn off true as if in a lathe. The stone and steel often form a glaze when exposed to the sun. Strong sulphuric acid will remove this, or it may be turned off with the spade. Don't leave the stone with one side in water in the trough, or it wears faster on that side.

Stacking Device.—With three poles of suitable length, form a hollow derrick, letting them come together at the top, and tacking on horizontal strips at intervals from pole to pole. Stack damp hay or grain about this, leaving an opening at the bottom and inserting a board trough from hollow to outside near the top, so the wind may blow through the centre of stack. I have stacked quite wet hay and grain this way and have had it cure nicely without moulding. Should think it may help cow pea hay growers in the South. E. HOLLENBECK.

Davison, Mich.

Washing Soap.—A short cut to washing would be to add a cup of blueing water in making soap for laundry. The following makes a dozen cakes of good, solid soap: One and a half pints soft boiling water; one-quarter package of Pearline; add two-thirds of a cake of soap cut fine; one and a half pints of blue water cold. Use any good washing soap. Boil thoroughly and stir occasionally; a broad fork is best for this.

A. E. ARNOLD.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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A Valuable Pamphlet.—A copy of the pamphlet, "Principles of Profitable Farming," is before us in a new and revised edition. The principles of proper rotation with leguminous crops and the great advantages to be derived by such methods are explained in the pamphlet in a fascinating manner. A description of the Experiment Farm at Southern Pines, N. C., where the best methods of using fertilizers are being studied and put into practice, is also a valuable feature of this publication. A thorough perusal of the book would be of interest and benefit to all practical farmers and copies can be had, free of charge, by writing to the German Kali Works, 93 Nassau St., New York. Mention the P. F.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

Special Notice. The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Clover Seed Wanted. Send sample and price. CLYMER FLETCHER, Clearville, Pa.

Chester White pigs sale or exchange for Collie pup, Silver Wyandotte fowls or offer. E. E. LEWIS, Albany, Ohio.

Fancy Pedigreed female Scotch Collie pups, 4 months old, to exchange for pure bred pigs or poultry. CHAS. BENNETT, Goodman, Va.

For Sale. 150 acre farm, situated along railroad, 8 miles from city of 20,000 inhabitants. Free mail delivery. MILES KEPHART, Guilford, N. C.

Wanted. An experienced dairyman to work my farm on shares. Near Cayuga Lake, two miles from milk station. JAS. WYCKOFF, Farmer, Seneca Co., N. Y.

Sale or Offers. Oxford-down ram lamb; big, strong and healthy; bred from imported stock. Exchange for shot gun. H. N. MUSSER, Route 5, Wooster, Ohio.

Wanted. To exchange a white Leghorn or silver laced Wyandotte cockerel for white Wyandotte cockerel. MRS. J. C. SPENCER, South Boston, Halifax Co., Va.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

60 Acre Farm For Sale. 50 acres in cultivation; two houses, two barns; not in debt; could sell on easy terms; would sell stock and feed. JOHN P. TREECE, Elizabeth, Ind.

For Sale or Exchange. One thousand Single Comb White Leghorns, Wyckoff & Blanchard strain. Beautiful, early hatched cockerels and pullets, strictly thoroughbred. C. N. REYNOLDS, Canton, Pa.

Wanted. A young Christian married couple to take a place in N. Cecil Co., Md., of 6 acres on shares. Those able to propagate bee colonies would suit references. Address, "A," THE FARMER CO., Phila., Pa.

Wanted. Young middle-aged woman to take charge of house by party having store close by, where wife's time is mostly taken up. Good wages, steady employment. Address, LOCK BOX 105, Hazelton, Pa.

Wanted. Man to milk and do general work on small dairy farm. Must be clean, neat, cheerful, upright and manly. A good home and extra inducements to the right party. PAUL SHIVELL, Pleasant Hill, Ohio.

One No. 6 U. S. Cream Separator made but 90 runs, good as new, cost $100. Will sell for $75.00 or exchange for registered Guernsey heifer or Durham bull calves or registered sheep. WILL W. FISHER, Watervliet, Mich.

Farm For Sale. 60 acres land; good 7 room house; all necessary out buildings; young orchard; fine cabbage and potatoe land. ½ mile from station; 3 churches, and 2 schools. For further particulars apply to L. G. CORMANY, Rural Retreat, Va.

Farm For Sale. 81 acres; 60 in cultivation, balance in pasture; good vein of coal; good dwelling house, one tenant house; two good wells of water; 5½ miles from Fort Smith. A bargain if sold by 1st of January. Address, J. W. LEE, R. F. D. No. 2, Fort Smith, Ark.

For Sale or Exchange. Two and one-half acres rich gardening land, situated one-half mile from city of Battle Creek; small building; never failing stream of water. Also a new oil stove or would exchange for a high grade watch. Full particulars obtained from O. R. ROBERTSON, R. R. No. 3, Alma, Mich.

262½ acre dairy-truck farm, 40 miles south of Atlanta, Ga., on Central R. R. Station and P. O. on place. 2½ miles from Griffin; 5 large cotton mills; good market; 80 acres in high state of cultivation. Balance in good pasture; all lays well. Good spring water; 8-room house; 2 barns; 200 apple trees. $30 per acre. A. R. TAYLOR, Vineyard, Ga.

Wanted. Between now and April 10th, 1904, a good, middle-aged farmer, having large family that will help him run a truck and stock farm, one who understands raising and care of hogs and poultry to some extent. Address between now and Jan. 1st, 1904, giving number in family, age of all, etc. Chance of a life time for the right man. P. O. Box 105, Hazelton, Penna. Schools and church within sight of farm, also trolley road.

Farm for Sale. 50 acres on east side beautiful lake, one mile wide—on State road. Daily rural mail; telephone. Can have artesian well for less than wind mill. Raises big crops red clover. Best part peach belt; will raise $2,000 to $4,000 peaches each year. Two miles from Lake Michigan. Daily boat line and R. R. 8 miles north, also 4 miles south. Price, $35.00 per acre, stumps out. Has 4-stall stable; no house. Easy terms. S. E. RUSSELL, Pentwater, Michigan.

For Sale. 500 acre farm on eastern shore of Maryland; 400 acres cleared, balance in pine and oak; soil a red, clay loam, easily worked and naturally drained; best suited to corn, wheat, grass and stock; water front; freight shipped and received at door; cheap fish and oysters; 2 miles from county seat and railroad; mild and healthful climate and Northern neighbors; 80 acres newly seeded wheat goes with farm. $5,000 cash required, balance in $500 a year payments. If interested write to, Box 236, Princess Anne, Md.

I Can Sell Your Farm or other real estate, no matter where it is or what it is worth. Send description, state price, and learn my wonderfully successful plan. W. M. OSTRANDER, 346 North American Building, Philadelphia

$21.95 Farmer's Handy Wagons 4-inch Tire Steel Wheels Empire Manufacturing Co., Quincy, Ill.

A GIFT For 10c and 10 names and addresses of good farmers we will send the best weekly farm paper published balance of this year. Address S. P. WOODCOCK, Salisbury, Maryland.

SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 5 ft. Through 1 MAN with a FOLDING SAWING MACHINE BEATS 2 MEN with a Cross-cut Saw 5 to 9 cords daily is the usual average for one man. RUNS EASY No Backache weighs only 41 lbs. EASILY CARRIED SAWS DOWN TREES Our 1904 Model Machine saws faster, runs easier & will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency. Folding Sawing Mach. Co. 55 N. Jefferson St., Chicago, Ill.

THE APPLETON No. 9 HAND FODDER CUTTER IT'S A GOOD ONE AND THE PRICE IS LOW —BUY IT— Should you want a larger power ensilage and fodder cutter or corn husker, sheller, horse power, feed grinder, wood saw, windmill, farm truck, seeder, etc., send at once for our free Catalogue. Appleton Manufacturing Co. 25 Fargo St., Batavia, Ill., U.S.A.

Freeman Feed Cutters are in a class by themselves. All sizes to meet all requirements. Smallest hand lever to largest self-feed cylinder cutters, shredders and carriers for fodder, ensilage, etc. Widely popular through many years service. Also Wind Mills, Corn Shellers, Wood Saws, etc. Catalogue 106 sent free. S. Freeman & Sons Mfg. Co., Racine, Wisconsin.

SMALLEY Fodder Shredder Warranted to put corn stalks in best shape for feeding. Snapper rolls to remove ears, if wanted; adjustable knives take up wear. Will outlast any other. Fully described in our free catalogue, which includes drag and circular saws, sweep and tread powers, ensilage cutters with blowers or carriers; mills, etc. Address Box No. 7 SMALLEY MFG. CO. Manitowoc, Wis.

Clark's Tools FOR LARGE HAY CROPS.

CLARK'S REVOLVING BUSH PLOW AND HARROW Cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush or bog land; leaves land true, clean for any crop.

Clark's Dbl. Action Cutaway Harrow Moves 15,000 Tons of Earth in a Day.

CLARK'S 8-foot Grading Harrow. Will smooth an acre as true as a mill pond in twenty minutes.

Clark's Rev. Sulky Disk Plow. Made single or double. One or two furrows, 5 to 10 in. deep, 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milkweed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

Clark's Cider Mill. Horse, hand or steam power. From five gallons to eight barrels. Perfect Grind. Will grind 75 bushels per hour easily. Send for Circulars. THE CUTAWAY HARROW CO., Higganum, Ct., U. S. A.

The Time for Argument Has

This Was Our Advertisement

WE WANT YOU AS A PARTNER IN

Our Enormous Mail Order Business

GUARANTEE you at least 7 per cent. on your investment, with additional profits of from 15 per cent. to 40 per cent. per year.
GUARANTEE to save you at least 25 per cent. on everything you buy from our catalogues and a special 5 per cent. discount if you become a shareholder.
GUARANTEE to pay you a commission of 5 per cent. on all business secured through your influence from your friends and neighbors.

The Best Investment Plan Ever Offered Endorsed to You and Your Friend.

MERCHANDISING is the money-maker of the age. Of all the great money-making department stores, THE MAIL-ORDER DEPARTMENT STORE is the greatest. Its line comprises everything from a needle to a threshing machine. Everything the people eat, wear and use from the cradle to the grave. Its field is not limited by city and suburban limitations, but extends to every town of the country and every country on the globe. It requires less capital to do an unlimited amount of business than any other mercantile or manufacturing enterprise. Its expenses—selling or fixed—are less than in any other business. It's a strictly cash business. It has no losses. It does not depend on seasons or local conditions. It is a "hard times" business. It does not even depend on prosperity. Its profits are immense.

An Investment of Less than $40,000 Yielded Over a Million Dollars in Cash in Less than Six Years in one of the Chicago Mail-Order Houses.

All this is fully explained in a book which we want to send you free of all charges—on request. The book gives the complete history and earning power of the mail-order business. It gives statistics showing that the famous co-operative stores in England cleared over 40 per cent. on the investment last year. We have re-organized our old-established mail-order business under the co-operative system. We want to interest you (no matter how large or small your capital) and we know you will be deeply interested if you let us send you our free book. It's a mine of interesting business information. It will make you either a shareholder (shares are $10 each) or a customer. IF YOU BECOME A SHAREHOLDER you will find your investment the best and safest you ever made—you buy into an old-established growing, and successful business. IF YOU BECOME A CUSTOMER it will save you at least 25 percent. on everything you buy.

IF YOU ARE BOTH SHAREHOLDER AND CUSTOMER YOU CAN BUY FROM US AT COST

In any event, you will profit by reading the book and you are under no obligation whatsoever—if you send for it. Send for it to-day. Do it now.

This co-operative plan enables us to sell at lower prices than all others and issue complete catalogues of

- Athletic Goods
- Agricultural Implements
- Baby Carriages, Bicycles
- Bicycle Sundries
- Boots and Shoes
- Cloaks, Suits and Furs
- Clocks
- Clothing, Ready-to-Wear
- Clothing, Made-to-Order
- Crockery and Glassware
- Furnishing Goods
- Furniture, Groceries
- Guns and Sporting Goods
- Harness and Saddlery
- Hats and Caps, Hosiery
- Housefurnishing Goods
- Jewelry
- Lamps, Millinery
- Mackintoshes and Rain Coats
- Moving Picture Machines
- Musical Instruments
- Optical Goods, Organs
- Pianos, Photographic Goods
- Public Entertainment Outfits
- Refrigerators
- Sewing Machines
- Shirts, Men's and Boys'
- Stoves and Ranges
- Talking Machines
- Trunks and Satchels
- Vehicles of Every Description
- Underwear
- Watches, Etc., Etc., Etc.

Catalogues now in Preparation

- Artists' Materials
- Bakers' Supplies
- Barbers' Supplies
- Blacksmith Tools, Books
- Builders' Hardware
- Butchers' Supplies
- Carpets and Curtains
- Cutlery, Dairy Supplies
- Drugs, Dry Goods
- Electrical Goods
- Fishing Tackle
- Furnaces, Hardware
- Ladies' Wearing Apparel
- *Miners and Prospectors Outfits*
- Notions, Paints
- Plumbers' Supplies
- Surgical Instruments
- Stationery
- Tailors' Trimmings
- Tinware, Tombstones
- Tools of Every Description
- Toys, Wall Paper
- Woodenware

In fact a complete line of General Merchandise.

Write for any of these FREE catalogues.

INVESTORS CONSUMERS

You are Invited to Become a Partner in this Great Business

and share in its profits in the exact proportion to your contribution to the capital and the amount of goods you buy, and which are bought by all our other customers.

We have divided the capital into shares of $10.00 each, so that you, even if you have but the most modest means, can take advantage of this truly wonderful opportunity to—

(1) **Invest your money and draw dividends of no less than 7 per cent.** each and every year, with the possibility of earning as high as 40 per cent. and more on every dollar invested.

(2) **Buy your goods at the lowest prices ever known and get an additional discount of 5 per cent.** (practically all the net profit) on everything you buy.

(3) **Make money by co-operating with us and get a commission of 5 per cent.** on all new business you help us to get.

Our "Book of Information" fully explains all the particulars of our plan, and we advise you to send for this book and read it from cover to cover and become a member and co-partner of our society as soon as possible, even if you start with but a few shares, and thereby obtain the immense advantages which we offer.

And This is the Result—Some of it.

How Co-Operation Interests Intelligent People.

Cer.	Occupation.	Town.	State.	Am't.
6443	**Farmer**	**Mobile,**	**Ala.**	**$1000**
5495		Kaneville,	Ill.	100
5485		York Haven,	Penn.	150
5466	Bookkeeper	Bonne Terre,	Mo.	100
5287		Oxford,	Mich.	100
5165		Pittsburg,	Penn.	100
5282	Tailor	Cairo,	Ill.	100
5270	Mill Manager	Kenlo,	Ill.	100
5507	Retired Merchant	St. Peter,	Minn.	100
5234	Promoter	St. Louis,	Mo.	250
5062	Publisher	St. Louis,	Mo.	250
5306		Dell Roy,	Ohio	150
5292	Druggist	Coldwater,	Kans.	100
5263	Milliner	Eau Claire,	Wis.	500
5411		Zanesville,	Ohio	250
5019	Farming	Bartlett,	Kans.	500
5571		Friday Harbor,	Wash.	100
5572	Farmer	Aberdeen,	Wash.	500
5584	Manufacturer	Centralia,	Wash.	100
5441	Farmer	Wyndmere,	N. Dak.	140
5645		**Lake Charles,**	**La.**	**$1000**
5621	Printer	New Alexandria,	Ohio	100
6532	Housekeeper	Prairie Du Sac,	Wis.	100
5837	Farming	Nantucket,	Mass.	100
5613	Supt.	Martin's Ferry,	Ohio	500
5664	Del. Clerk	Chicago,	Ill.	100
5665	Carpenter	Chicago,	Ill.	100
5674	Farming	Pana,	Ill.	100
5683		Merrill,	Iowa	100
5685	Farming	Searight,	Penn.	100
5687	Housewife	West Paris,	Maine	100
5694	R. R. Agent	Port Carbon,	Penn.	200
5697	Waiter	St. Louis,	Mo.	200
5703		Chicago,	Ill.	100
5723	Farming	Faribault,	Minn.	100
6085	Stock Gauger	Kern,	Cal.	250
5883	Salesman	Philadelphia,	Penn.	300
5857	Physician	Watch Hill,	R. I.	400
5888		San Francisco,	Cal.	250
5974	Housekeeper	Kangley,	Ill.	400
6442	**Insurance**	**St. Louis,**	**Mo.**	**$1000**
6000	Clergyman	Warm Spring,	Oregon	300
6105	Teacher	Quaway,	Mich.	200
6121	Housekeeper	Evansville,	Ind.	400
6251	Merchant	Ellijay,	Ga.	500
6248		Toulon,	Ill.	500
6323	Electrician	Troy,	Ohio	500
6403	Pur. Agt. R. R.	Perrysburg,	Ohio	300
6437	Housekeeper	Youngstown,	N. Y.	500
5497	Farmer	Fairmount,	Ill.	600
5733	Manufacturer	Meyersdale,	Penn.	300
5738	Dentist	Hennepin,	Ill.	120
5744	Merchant	Quaker Springs,	N. Y.	500
5745	Real Estate	Quaker Springs,	N. Y.	250
5750	Farmer	Newton Falls,	Ohio	100
5751	Clerk	Jane Lew,	W. Va.	500
5752	Farmer,	Braham,	Minn.	100
5767	Farmer	Wheelersburg,	Ohio	300
5775	Housekeeper	Longwood,	Fla.	100
5610	Ranchman	Meadow Creek,	Mont.	100

All these subscriptions and several thousand others ranging in amounts of $10.00 to $1,000.00 (the greatest amount allowed to any one) were received in direct reply to our advertisement. Co-operation with but the smallest part of the country heard from—is a magnificent success. **Will you share in its benefits and profits?**

Passed—Here is the Evidence.

Read These Interesting Letters From Our Shareholders who in stronger manner than any language of ours, demonstrate the success of our wonderful co-operative plan; the great enthusiasm it has created among all classes and unlimited success to which it is destined.

Another $1,000 Co-Operator.

Yankton, South Dakota.

Your letters of the 18th and 19th showing appreciation of my interest and approval of my work, at hand. I am interested because I can see that you have hit upon a great scheme and I am confident that *our* business will very soon, at least, be "the biggest thing on earth" with proper management, and I have faith in the management or would not put my money into it. I am today making application for 90 shares more of stock. This gives me the limit.

Your (our) prospectus is taking. It took me and will others. I wish, if convenient, that my certificate of stock both for this and the former 10 shares might be sent to me at Mitchell as I might like to make use of them in interesting others there. I have begun business with you (us) by ordering a watch on which I save $9.00 over the price I would have to pay here for the same article.

A Canadian's Confidence.

No. 5184. Stratford, Ont., Canada.

I am sending today $10.00 for one share. If I were in position to take 100 shares, would take them just as soon as one. *This shows the faith I have in your Union, as well as in its officers.*

A Great Enthusiast.

No. 5790 Marshfield, Mo.

I congratulate you on being among the few who commence the twentieth century with co-operative method and idea, which I believe will ultimately become the method in all transactions the world over. I am enthusiastic on this subject and hope I may become a member of your "Society." Universal co-operation means no more poverty, human vengeance or crime, but peace on earth and good will to man. *I am now selling off my farms and live stock and propose to devote my few remaining days to this good work.*

From Far-Away Korea.

I was much impressed with your Prospectus and with the idea of co-operation. *Your push and enthusiasm certainly ought to be contagious and merits success.* I am a missionary at home on a furlough, my field of labor being Korea. Other houses do a lot of business out there, especially in the line of dry goods, household goods and sporting goods. I thought that, if I went in with you, I might be able to introduce our goods over there and supplant the other houses. The people over there did not like them.

A Strong Believer in Our Success.

No. 5325 Cincinnati, O.

About the first thing that attracted my attention on perusing the Bookkeeper Magazine which I received only yesterday, was your Ad concerning the re-chartering of your company, and after reading same through carefully I could not but help to put faith in your movement, as it seems evident to me that *it is destined to be a grand success.* The fact that I only subscribed for one share does not mean that I am in any way doubtful of its feasibility, as I should certainly take more were I able to do so just at the present time. Perhaps in the near future I shall be better prepared to purchase additional stock. *I fully believe I can influence many orders in your direction, or rather, for the company of which I am part owner.*

Another Old English Co-Operator.

No. 5322 Anita, Pa.

I am heartily in favor with your plan of Co-Operation. I was a member of a Co-Operative Society in England twenty years ago, therefore *I am able to judge of the blessings to thousands of families.* I remit today $10.00 for one share and if not all taken up, in the near future I might take one or two more.

$1,000 from an Insurance Man.

St. Louis, Mo.

Received your book of valuable information, and have read it carefully. I have been looking for several months for just such a company as yours to invest my money in. *I enclose you application blank for $1,000.*

Well Acquainted With Co-Operation and Our Goods.

No. 5636 Carnegie Library,
Hazlewood, Pittsburgh, Pa.

I wish to say I most heartily endorse the co-operative plan, and knowing the benefits and blessings that have accrued to those who have availed themselves of its advantages, by observation and experience, I have seen the people who were careless and slovenly grow into tidy and highly respectable citizens, because of the help they have received from the half-yearly dividends. They have furnished their homes and paid off old debts and raised somebody in the world; therefore I am pleased that you are engaged in such a worthy cause, and I will join the same and do something to help increase its membership. *My wife desires me to say she is highly pleased with her machine, the Arlington.*

A Head Bookkeeper Interested.

No. 5016 Abilene, Texas.

I am today forwarding to the Bank of Registrar check for one share in your enterprise. After my stock shall have been issued I wish to send you a list of those that are in sympathy and would give their moral and financial support to your enterprise, and mail catalogues to them. I am head bookkeeper for my firm and enjoy a lucrative salary, *yet I am a thorough co-operator.*

Likes Our Plan.

No. 5058 Hudson, O., R. F. D. No. 4.

I like your plan and if I had the money should take the limit of stock.

Believes in Our Policy of Good Goods.

No. 5051 Malden, Mass.

I am forced to admit that the plan looks fair. *Continue to handle reliable goods*—let some one else sell the cheap and worthless—and you will no doubt succeed. There are plenty of people in the world yet who want a good article and expect to pay for it. I wish you success in the undertaking and will contribute my mite toward the same. I have sent the money to the Bankers as you direct for five shares, ($50.00).

Below All Others in Price.

No. 5379 Grant Park, Ill.

I am sending today $100.00 to the Metropolitan Trust & Savings Bank for ten shares of your profit-sharing stock which I hope I will get. I would have sent sooner, but I have been delayed in sending. Now it is to your interest to let me have this stock, as I am a farmer and have lived on a farm all my life and order considerable stuff by mail as I find it is a money-saving business.

I have been trading with other houses, but *I find you are below them in price for first-class goods.* If I get the stock as I hope I will, I will do my mail-order business with you, and will get my friends and relatives to do business with you. The mail-order business among the farmers is growing every year.

Now, I hope you will see that I get ten shares of the stock, and I will do all I can to make it a success.

A Heavy Mail-Order Buyer.

St. Louis, Mo.

I wish to purchase about three shares of your stock within the next three weeks. *I have always been a heavy mail-order buyer; have in the last ten years bought thousands of dollars worth of goods from other houses. I am much pleased with your plan.* I want a few shares of your stock, at least three shares, for I am pleased with your prices and plans and want to purchase to a considerable extent from your house. I have no idea how long you will be selling stock, but if the time is likely to be short, can you hold or lay aside for me three shares for two or three weeks at the longest, and I will remit and take the stock. I am writing this to you for I do not want to miss them and you can depend upon me in this matter.

Quits His Own Business to Join Ours.

No. 5400. Muncie, Ind.

I have sent subscription and draft as per your proposition advertised in the July "Bookkeeper," and I would be pleased to have you send me what catalogues you have prepared. I was just preparing to enter the mail-order business, and from what I get from your proposition I believe it would be well for me to turn my attention to this work, and *I think I can turn quite a large business from this section.*

Has Known Us for Fifteen Years.

No. 5692 Shasta, Calif.

I received your circulars. I am well satisfied with your co-operative mail-order business. I am doing everything by mail, banking, too. *I have known the cash-buyers' Union for fifteen years.* The eastern mail-order houses are much cheaper than those in California. I believe in "co-operation" for starting up a large business rather than let a few rich men have it all for themselves. I will buy a few shares of your stock. Your advertisement was too late; on July 1 I invested $1300.00 which is not transferable until July 1, 1904; otherwise I would invest $1000.00. Such is my faith in you.

Delighted with Our Method.

No. 5404 Philadelphia, Pa.

Your very kind letter received from your president and manager which I appreciate very much and the way you seem to transact business. I feel very proud to know I am now a shareholder in such a live institution, although my amount of cash interest is small. It has roused me to be a very much interested stockholder. I hope to be a much heavier owner of stock in the near future. *Been so much delighted with your ideas and the way you do business I was bound to let you know my thoughts and feelings in the matter.*

A Customer-Investor.

No. 5180 Chicago, Ill.

I have made application for two shares of your stock and would like to take the balance of ten shares if I can make it. My wife also will apply for a share next week. We were first made acquainted with your business about four years ago. *We bought a Cabinet Sewing Machine and were very much pleased with your manner of dealing.*

Thinks Plan Wonderful and Will Help.

No. 5928 Stonleigh, Va.

I have sent by same mail $100.00 for ten shares of your preferred stock. You sent me a booklet with a catalogue several days ago explaining the object of the society, and I was very favorably impressed with the plan. *I think the plan something wonderful*, and will certainly bring to your house an immense business. I will secure all orders I can.

An Old Acquaintance.

Bradford, Ill.

Have been acquainted with your mode of doing business for a long time and now you have "struck my gait." Please send me to Bradford your Prospectus and all literature, and to my father.

Will Invest $10.00 a Month.

No. 5048 Elmira, N. Y.

I am satisfied, though your ad in the "Ram's Horn" was sufficient guarantee of your reliability. I enclose $10.00 for one share in your concern. I wish I could take more, but at present this is all I can invest, but if acceptable to you *I shall put in one share of $10.00 each month.* Will send you an order for groceries next week, and expect an order to send with it from another party.

An Old Customer's Confidence.

No. 5006 Cape Girardeau, Mo.

I have just sent your bankers $10.00 for one share in your stock. I only wish I could make it $1000.00. If not all taken up I hope to send for a few more in a few weeks. I fully believe in your plans, and believe it will turn out to be one of the grandest enterprises of the age. *From dealings I have had with you in the past I have unbounded confidence in your honesty. I am thinking of mortgaging my farm and investing in your stock.*

A New-Comer's Confidence.

R. L. D. Mobile, Ala.

Please by return of mail let me know if I can get *at once* the hundred shares at $10.00 ($1000.00) applied for on this sheet. I have funds in town, and on receipt of your letter I will go for regular draft. I intend to become a customer and local agent of the Cash Buyers' Union concern.

An Experienced Co-Operator.

No. 5885 Stanford University, Calif.

Being an Englishman, and my father owning shares in the Civil-Service Co-Operative Stores of London, I am well acquainted with the system, and do not see why, if properly managed, it should not be a great financial success. I therefore enclose W. F. Order for three shares, $30.00 *I shall, without doubt, take out a good many more shares.*

A 50 per cent Saving.

Davisville, Calif.

I have taken a share in your Co-Operative scheme, and from the catalogues sent I judge it to be a good thing. In some cases the *difference is fifty per cent. in your favor over prices here.* Even our jobbers' rates are far above yours. If my judgment is correct I shall increase the investment.

A Kansas Bank President Invests $500.00.

No. 5134

I sent for and received your literature on the co-operative scheme, together with several of your catalogues. *I have looked over the matter* and finally concluded to invest a little, and herewith send you application for fifty shares of stock ($500.00). President, State Bank.

Our Prices Lowest of All.

No. 5193 San Luis Rey, Calif.

Receipt for money in payment for one share of stock, just received. Catalogue, etc., came to hand a few days since. *Comparing prices with other mail-order houses, I find your prices much the lowest.* Kindly reserve for me one share of stock to be paid for on or soon after Sept. 15, 1903.

An Ardent Supporter.

Pueblo, Colo.

Yours of the 6th inst. at hand, and contents noted with much satisfaction. I am very much pleased with the explicit manner in which you bring your proposition before the public. *You can depend on me being one of your most ardent supporters.* Thanking you for the courteous manner in which you have dealt with me, I remain.

NOTE: Mr. H. J. Elliott, Secretary of the Metropolitan Trust and Savings Bank of Chicago, will certify that these letters, the number of the certificate and the amount subscribed are **on record** in his bank. As we always treat all transactions and investments of our customers and shareholders sacredly confidential, we are prevented from **publishing names.** Write to the Metropolitan Trust and Savings Bank if you so desire.

ARE YOU WITH US?

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Subscribe To-day if but for One Share while we offer to send our most interesting Book of Information FREE—don't wait for the book, but subscribe to-day. Now, before you lay aside this paper, and if after reading the book which we shall send you together with your certificate of stock, if you are dissatisfied with your investment for any reason, whatever, whereby, guarantee to promptly refund your money in full and cancel your subscription.

Cash Buyers' Union, First National Co-Operative Society, Dept. AA909, 156 to 168 W. Van Buren St., Chicago, Ill.

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Gentlemen:—Please send your complete "Book of Information" and all literature pertaining to the profit-sharing stock of your company to

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It is understood that above will be sent to me free of all charges and that I am under no obligation whatsoever to subscribe.

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Name.. Street..

P. O.. State..

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

We have had a continuous drought that has lasted three months, and the farmers are very much discouraged; pastures are all drying up and feeding time is at hand; corn crop very good, considering dry weather; sweet potato crop almost a failure. Winter apples being gathered and are selling at 50 to 60c.; wheat, 80c. per bu.; hogs dull at 4½ to 5c.; cattle dull; chickens, 10 to 12½c.; butter, 17 to 18c. per lb.; eggs, 18c. per doz. Days are hot and nights cool; have had two or three light frosts. Very little fall plowing done yet, owing to dry condition of soil. Roads very dusty. Health very good. The timber, which consists of oak and poplar, is being very rapidly cut out. Farm help not plentiful. The P. F. ought to be in every home. S. R. HAWK.
Indian Springs, Tenn., Oct. 12, 1903.

We are having ideal weather at present; season has been favorable for most crops; wheat was very short crop; corn will be above an average crop; tobacco is about all cut and cured; said to be a good crop, but farmers are discouraged over low prices. I think they had better quit it and get at a cleaner and better business. Vegetables have been fine this year; chickens and eggs have sold high all the year and are now high, indeed. A great deal of building going on —cotton mills and houses for cotton mill hands. Health generally good. We have a fine country, but there are but few good farmers. Success to P. F.
JOHN N. RAGSDALE.
R 1, Danville, Va., Oct. 13, 1903.

Threshing is coming to a windup; yield fair, quality good. Prospects are for a crop of corn of about one-half yield, with some soft corn and a great deal of fodder. Plowing well advanced, but hard and tough to turn. A few disk plows used, and found excellent for ease of running and durability. Hog crop good and but few cholera cases. Tiling in progress in all directions; also large ditches placed, and after some years it will be an all-around "ideal" farming country. Rural delivery on the go, and telephones approaching. Prices: Oats, 30c.; wheat, 65c.; corn, 55c. per bu.; hogs, $5.50 per cwt.; land, from $45 to $75 per acre.
E. B. KIRKEBERG.
Eagle Grove, Ia., Oct. 10, 1903.

Situated 4 miles west of Douglasville, in Douglas Co. Weather warm and dry. Fodder hay and roughage cured nicely and housed away; good crop of peas. Cotton opening fast; the crop is short on account of wet, cool spring and summer. Corn, $1 per cwt.; wheat, $1; apples, 40 to 50c. per bu.; butter, 20c. per lb.; eggs, 20c. per doz.; hens, 20 to 25c.; fryers, 15 to 25c. each.
MRS. J. B. COWAN.
Winston, Ga., Oct. 12, 1903.

Located on the water divide, 15 miles south of Monticello, the county seat of Drew Co. Cotton picking well under headway; not much corn gathered yet; corn is a good crop; cotton is not very good. Prices as follows: Corn, 50c.; oats, 50c. per bu.; cotton, $10.15 per cwt.; cotton seed, $15 per ton; Irish potatoes, 75c.; sweet potatoes, 75c. per bu.; eggs, 15c. per doz.; butter, 20c. per lb.; cows, $15 to $20; young cattle, $5 to $10; good horses, $75 to $100; mules, $75 to $125 per head; land, from $3 to $8 per acre. Land is steadily advancing in price. New railroad under construction across the county. Now is the time for the hundreds of farmers that are renting in the North to come here and buy a good home while they can get it cheap. Farmers are not up-to-date on farming here; they ought to read the P. F., but you cannot make them think so. Success to the P. F. and all its readers.
Scipio, Ark., Oct. 10, 1903. J. G. TAFT.

Siuslaw watershed. Three days to railroad and return. More grain bought and hauled than raised. Wheat, $1; oats, 50c.; potatoes, 50c. per bu.; bran, $1.40 per cwt.; hay, $6 per ton; eggs, 20c. per doz.; butter, 20c. per lb. Good crops of hay, vegetables and fruit. Cattle and hogs plentiful and dull, while ham and bacon are high, largely imported; feed too high to turn into pork. Great excitement in chittem bark (cascara sagrada, or sacred bark) this year. It opened at 3c. per lb., the highest price ever paid before, rose to 20c. by the close of the peeling season (early in September) and has now settled down to 8 to 12½c.; some farmers and their families peeled enough to buy and pay for adjoining farms. All unoccupied land is being stripped of chittem by settlers. It is becoming scarce and some are planting the trees, though it will take 10 to 20 years to grow them to good peeling size. Desirable homesteads and good timber land all taken.
WM. H. WHEELER.
Greenleaf, Ore., Oct. 8, 1903.

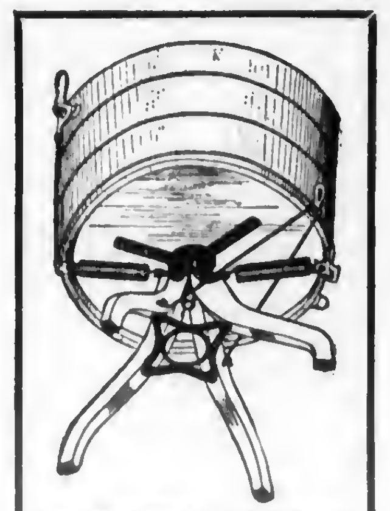
Located 4 miles east of West Union, the county seat of Adams Co. Said to be the only county seat in the State without a railroad, but there is one being built now. We have free rural delivery; telephone lines are being built through the country. This has been an exceptionally dry summer here; corn and wheat about half a crop; oats scarce; hay a fair crop; fruit scarce; corn ground in fine shape for wheat, which is mostly all sowed. Our five county fairs are over. Old corn sells for 75c.; new, 50c.; wheat, 80c.; oats, 35c.; potatoes, $1 per bu.; clover hay, $8; timothy, $10 per ton. Too many hogs for the corn crop; cattle cheap; horses good price. MINOR C. FIELDS.
West Union, O., Oct. 13, 1903.

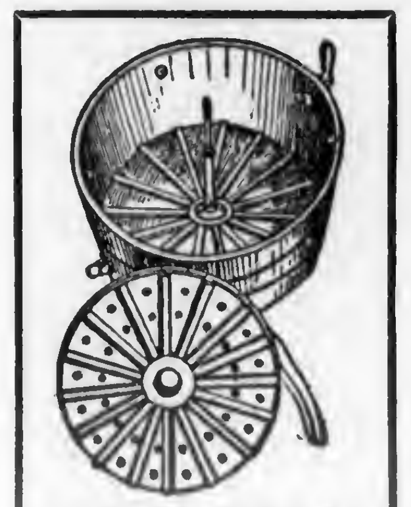
Forty-two miles from Louisville, on the L. & N. and Illinois Central R. Rs., at Elizabethtown, the county seat of Hardin Co. Weather has been very dry for the past few weeks. Corn cutting is about over with, and a good yield from all sections is reported. The wheat crop was very poor, some farmers barely getting their seed back. Fall seeding of small grain is far advanced. Through this section an unusually large acreage of winter oats has been sown. A good many farmers have sowed alfalfa this year. Winter oats, 60c.; rye, 65c.; wheat, 80c.; apples, 35c. per bu.; eggs, 18c. per doz.; chickens, 10c.; butter, 16c. per lb. C. W. GIVAN.
Elizabethtown, Ky., Oct. 12, 1903.

Twelve miles from Pittsboro, in Alamance Co., near Haw River. The land is sandy; good for cotton, which crop is short; corn good, owing to the season. Farmers are sowing rye and oats, planting onions, picking cotton and looking out for the fair. Farm hands are very scarce. Stock high. Old corn, 75c.; good wheat, $1; Irish potatoes, $1 per bu.; chickens, 10c. per lb.; eggs, 15c. per doz. LEROY FERGUSON.
Manndale, N. C., Oct. 12, 1903.

Located in North Central Kansas, in the wheat belt. Have had plenty of rain since corn planting time in the spring. Crops of all kinds good; wheat was damaged to some extent in the shock; will average from 18 to 20 bushels per acre in this, Mitchell, county; estimated yield in this county something over two and a quarter million bushels. Farmers are now sowing their wheat; a large acreage will be sown again. Alfalfa excellent; three large cuttings, some will cut the fourth time; corn good where it was kept clean and cultivated at the right time. The weather is good and the farmers are all busy and prospering. Prices: Old wheat, 64c.; corn, 35c.; oats, 35c.; potatoes, 75c. per bu.; hogs, $5.50 per cwt.; cattle, from 3 to 4c. per lb.; horses, $50 to $150; mules, $50 to $175 each; butter, 13c. per lb.; eggs, 17c. per doz.; hens, 7c.; turkeys, 10c. per lb. and advancing in price; many buyers from other States.
J. E. BARNES.
Glen Elder, Kan., Oct. 10, 1903.

The "1900" Ball-Bearing Washer Free
FROM FACTORY TO YOUR DOOR.
Freight Prepaid to Any Part of the United States on Thirty Days' Trial
NO DEPOSIT OR ADVANCE PAYMENT REQUIRED. IF NOT SATISFACTORY, RETURN IT AT OUR EXPENSE. NO QUESTIONS ASKED.


As it appears looking under the bottom of the Tub.


Inside view of Tub and bottom of Agitator or Washboard.

The "1900" BALL-BEARING Washer is the greatest time, labor and expense-saving appliance ever invented. An absolute necessity to Households, Laundries, Hotels, Boarding Houses, Public Institutions, &c., &c. Only practical, simple, easy running washer ever made. Hundreds of thousands now in successful use.

The "1900" Ball-bearing Automatic Washing Machine is the simplest, easiest running, most efficient machine for washing clothes ever invented. It is a thoroughly practical labor-saving machine for washing all kinds and grades of materials, from the finest laces to the coarsest fabrics. It is constructed on scientific principles. It revolves on ball-bearings, which render the rotary movement as easy as the wheels of a high-grade bicycle. The "1900" Washer will wash any garment without boiling, without scrubbing and without wear or tear. There is absolutely no need of using any chemicals. Soap and hot water are the only necessary things to do perfect work. **The washing is done while the operator sits by the side of the tub, revolving it by the handle half way around, to the right and left.**

There is no further need for stooping, rubbing by hand or boiling of clothes. The "1900" Washer will wash large quantities of clothes (no matter how much they are soiled) in from 6 to 10 minutes.

It is not a cumbrous affair, for, unlike so many so-called washing machines, it has no complicated machinery, no wheels, paddles, rockers, cranks, etc.; in fact, it is so simple that a child can operate it.

The principle upon which this machine operates is directly opposite to that of any other.

The "1900" Washer will wash collars and cuffs, laces, cambrics, and the most delicate materials perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bed spreads and the heaviest clothes just as easily and thoroughly.

CONVINCING TESTIMONY.
$1,000 will be forfeited to any one proving these letters not genuine.

BRIGGS AVE., MORRIS PARK, N. Y.
Inclosed please find bill for washer, with cash to settle same. I can hardly express my satisfaction with the machine, and thoroughly agree with you that the first time you use it you like it, but the more you use it the better you like it. **I did not believe it possibly could do what you claimed,** but thought it must have some good points or you could not venture to send on free trial. The free trial is a splendid idea, as I never should have been induced by any amount of advertisements to invest any money to find out if it was a good machine. I stood amazed as I lifted articles from the washer on my first trial; articles that as I put them in were so soiled that I exclaimed: "Oh, yes, they'll come out clean and white—? ?" But they certainly did! I have three little ones and plenty of washing, and pretty much soiled generally, but my only regret is that I did not have the washer years ago, and thus have saved myself very much. Thanking you for being the means of robbing washday of its terrors, I am, yours very truly, MRS. E. H. VOSE.

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"1900" Washer Company:
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Inclosed you will find check in full payment of the washer. Please acknowledge receipt of the same and oblige.
Respectfully yours, EDWARD KENT.
P. S.—I have been a delegate and attended twenty-six conventions held in different parts of the country, and my name is known on nearly every railroad in the United States and Canada. I am an engineer of the New York Division of the Erie Road, and **have run an engine for forty years.**

REMEMBER, you take absolutely no risk, incur no expense or obligation whatever. The washer is sent by us on 30 days' trial, express prepaid in New York or vicinity, and freight prepaid both ways to any other point in the U. S., and positively without any advance or deposit of any kind.

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Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

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all kinds of green and dry fodder with the WOLVERINE CUTTERS AND SHREDDERS. No machines of this kind have ever been made which will do more good work with less power than these. They have knives with 4 cutting edges—a measure of economy. We have devised a special

SHREDDER HEAD which fits any of these machines, being interchangeable with the same size of knife head. It makes two complete machines out of one. Each machine is equipped with a safety fly-wheel which insures the machine against breakage. Equipped with safety stop feed lever which insures the feeder against accident.
SWIVEL CARRIERS which will deliver the feed straight away or to right or left, can be supplied with these cutters in any length desired. Our large sized machines are made with or without traveling feed tables. Cuts ¼ to 1½ inches long.
58 STYLES AND SIZES. We have these machines in all these styles and sizes and can supply anything which anybody could possibly want. They range in price from $1.90 up. Our largest machine will cut a ton of feed in 5 minutes. Every machine is guaranteed as to quality of material, workmanship, capacity and quality of work.
CUT THIS AD OUT and send it to us and we will mail you our free feed cutter and farm machinery catalogue. It gives lowest prices of improved machinery.
MARVIN SMITH CO. CHICAGO.

THE PRACTICAL FARMER.

Vol. 87. No. 18. Philadelphia, October 31, 1903. Price, 5 Cents. {$1 per Year in Advance

THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Management of a Grass Farm with Little Cultivated Land.

W. W. Beeler, Powers, Ky., asks advice about the management of a farm of 150 acres. There are 26 acres level enough for tillage, 20 acres of timber and the rest is hilly blue grass pasture. His father, who passed away lately, had decided before his death, on a three-year rotation of clover, corn and wheat on the land that was suitable for plowing. I am asked if this is the best that can be done. Corn is reported as yielding 25 to 50 bushels per acre, and wheat 8 to 20. There seems to be no trouble at all to get a good stand of clover. One has only to put the seed on the ground, our friend says. Twelve cows are kept now, mainly for the calves, as there is no demand for milk and butter. The rotation given above will do all right for a time. It is probably as good as any you could have, as long as the clover does well, with so little plow land as you have. It seems to me that you might gradually work into raising beef cattle to advantage. Your blue grass pastures could be made good use of in this way. Then you must make the 26 acres produce far more winter feed. It is a great big matter for you that clover grows so readily. Do not fail to sow it regularly once in three years on one-third of your land for cropping. But the yields of wheat and corn that you mention are too small to be profitable. You must make the land more productive, and you can, too. I advise you to put cement floors in all stables where any feeding is to be done. And I would have warm, comfortable stables for all cows at least. They may be built very cheaply, only so the animals are comfortable. Then feed out all corn and clover hay. Use the wheat straw for bedding and for absorbing the liquid manure. Thus all of the manure will be saved, liquid and solid. If the land is not subject to surface wash this manure can be drawn out daily with you, perhaps, or whenever you would not cut up the land by driving over it. Put it right on the clover sod that you intend to plow for corn. At any rate, do not throw it out under the eaves, or allow it to leach out any until it gets on the land. In due time I should probably try to buy some grain to feed out winters. Then you ought to have a pure bred beef sire, and a good one, too. It would be best to get a neighbor or two to go in with you; would lessen the expense for you. Again, I would carefully look over the 26 acres at once and see if there are not some places that need draining. If so, go at it and do it this fall and next spring. Drain first the land you will plow for corn next spring. In your climate you can work at this most all winter. This is the way the writer did when not much older than you. Every acre that needs underdraining will be more than doubled in value and productiveness by fixing it so the water cannot do any harm in the future. You did not state the condition of the land, so I am hinting in the dark. But when a question like this is answered for one friend it is hoped that hundreds of others will read what is said and find something suggestive and helpful to them. Next spring plow the land that is broken up for corn one-half inch deeper than it was ever plowed before, if the subsoil is at all clayey. You can do this when the ground is moist in the spring, if you have a sharp plow point and a wheel on the beam to keep the plow at a uniform depth. Watch the turned furrows to see that there is a little peeling of the subsoil thrown up. Next, put more work on the corn land than ever before. Plow early and work often until planting time. Do not ever let the surface dry up hard after a rain; harrow it before it does. But never go on the land when it is wet enough so it packs under the horses' feet, unless the soil is very sandy. Spread the manure exceedingly fine and even, and before you plow I would harrow it over, or go over it with a bush, if you can make it any finer and more even. If every spot as large as your hand has some on it and before you plow everything but the straw has gone into the ground, that will be perfect. And then spread it thinly enough to at least give all the poorer parts of the field some. In time you should have manure enough to go over all the land you put in corn each year, that is one-third of 26 acres. The sooner you get that manure out onto the sod, and the finer and more evenly you spread it, the better your corn will be. So much for a starter, my young friend. Go to work now and make your mark. If I had no more land than you I would expect to soon be growing at least 75 bushels of corn per acre; that is, 150 bushel baskets of ears, and some 4 tons of clover hay in two cuttings. I have hinted the way to go at it. Save plant food and get more. The cement floor and prompt spreading of manure on a sod, and feeding out your crops will save it. Growing clover, buying grain to feed out, underdraining where needed, the gradual deepening of the soil and working it more will increase your supply. Your crops are not well fed or they would be larger. Make them larger. Think and work. And do not forget the better animals to feed as you get increased crops and experience in caring for stock.

How to Build a Cistern and Filter.—A reader writes from Stevensburg, Va., that he intends to build a cistern and asks the following questions: "Will a wall of rocks do, and how thick should it be? We expect to use lime mortar and lime with cement inside. We would like to put in a filter wall but do not understand how it should be made. Will not water run in faster than it filters through, and push this wall over? Again, we would like to have the pump in the kitchen and still be able to force water upstairs. Please explain how this can be done." Rocks will do for a wall just as well as bricks, only it will be more work and take more mortar, probably, to lay them, And it will take more to cover them on the inside. The main object of having a wall is to hold the cement mortar; then that mortar keeps the water in. You can make the wall as thin as you please, only so it stands solidly. The neatest way to fix the top is to get a 3-foot length of 2-foot sewer pipe; then arch your wall over until you can place this on over the hole that is left in the centre. Let the sewer pipe come up about 6 inches above the top of the ground and make a plank cover for it. If you make this neck of rocks and mortar, use Portland cement. Let water in at the bottom of the arch, through a sewer pipe that is cemented in. Have a waste drain at the same level and the pipe to draw out water just a little higher. You can use lime mortar for laying the wall, but I should put a little cement so it would set quicker. Plaster the inside thoroughly with pure cement mortar, using clean, sharp sand. Mix over and over dry, and then over and over wet. This for both sides and bottom. After it is done and set so you can walk on it whitewash the entire inside with pure cement and water. It will hold water sooner. Curve your filter wall slightly toward the side the water comes in. Then it cannot be pushed over by the water Put it near the middle and coming up above the entrance pipe a little, but so located that you can get down either side to clean out. Lay the filter wall after the cistern is done and the cement hard enough to stand on. Use ordinary bricks and lime mortar. Be sure that every joint is well filled so the water must go through the bricks. This it will do fast enough. You need have no fears about this filter We have used them for many years. Of course if bricks were glazed like sewer pipe they would not do for a filter, but water goes through common bricks very readily. You can turn the pump pipe under ground so it can go into the cellar, or under the house, and then up through the kitchen floor. It should be protected from frost. Cement around where this and other pipes enter the cistern to keep out mice, as well as to make water-tight. Put a screen over waste pipe. Lead pipe is best for the pump because it will not rust. There is no danger from poisoning. You can use a force pump, like the Buckeye, that has often been advertised in the P. F., in the kitchen, and have a rubber hose that you can connect in a few seconds and force water upstairs. Or a pump can be put in with a pipe upstairs and a valve that can be opened so as to let water out in the kitchen when wanted.

A Ton of Coal Burned in the Grate Gives as Much Heat in the House as it is Possible to Get Out of it in any Other Way.—One day, before our grate was put in, and while I was studying over the matter, I said to myself: "Now that grate is far ahead of ordinary ones. It will save a large part of the heat that usually goes up the chimney. But still there will be quite a little escaping. I want to save that; will do it, now how?" The result was that I ordered a Rochester radiator (furnace size, 15 inches in diameter, 34 inches long, 120 cross tubes) and two 8-inch elbows of Russia iron. Our main chimney is built so one side forms part of the wall in the hall upstairs. The grate flue passes up in this chimney. First I had an 8-inch hole cut through into the chimney flue, the bottom of it about one foot above the floor. Into this a thimble was set. Then I put an elbow into this thimble, turning upwards; then the radiator on this elbow and the other elbow on top of the radiator, turning into the chimney, through another thimble. The chimney flue was stopped up entirely just above the lower thimble by fastening in a heavy piece of galvanized iron. Now what is the result? The heat and smoke and gas cannot go up the old chimney flue after they reach the lower thimble, but must turn out into the elbow and up through the radiator and then back into the chimney again, through the upper elbow. How simple and how little expense! And don't you see I have got what I was after, sure? The heat must come out of the chimney flue and pass through the radiator. The radiator extracts it and sends it into the room, and then scarcely anything but gas and smoke passes back into the chimney and up and out. The upper elbow is never more then slightly warm, with hard coal burning; the lower one is hot. I have been writing in my room all the morning. It is 15x17 and warmed entirely by that radiator out in the hall. I am in my shirt sleeves and the thermometer stood at 38 this morning. But all the other hall doors are closed. If a little more heat is needed I can get it by opening a register in the floor of the hall, directly over the hearth below, or by opening the stair door. You say this will not ventilate my room as the grate does the rooms below, by bringing in fresh warm air and taking the foul out. This is true, but the matter was arranged for by putting in an 8x10-inch side wall register, at the floor in my room, into the furnace flue, which passes up by the side of the grate flue. When wide open this register does not hurt the draught of the furnace, except when we are starting a fire, and the air is passing rapidly out from the floor of my room every minute, day and night, automatically. Of course it comes in around the windows, except when the stair door, or register in the ceiling of the room below is open. All this heat upstairs costs us is the use of the radiator and two elbows, do you see? It is a big thing, dear friends. I didn't sleep much the night after it was thought out. So much heat that is clear again. Some wise heads again smiled rather pityingly at the arrangement, but I could afford to let them. Can you realize the pleasure I took later in taking them upstairs when it was all actually warm? I took the plastering off from the bricks, replacing it with the thinnest coat possible, so as to get the radiator close to the bricks. It touches the mortar. This to make the shortest possible horizontal turns, about 5 inches only. It does not seem to hurt the draught at all. A good tight drum would do excellent service above a common grate; but of course the radiator is far better. A radiator with fewer cross tubes would have to be used for soft coal, or it would clog up. But now I cannot guarantee that the plan will work where the draught is poor. I can tell you what we have done. And the very highest climax possible of economy of fuel and comfort in heating, I think, has been reached. In old times, such weather as this, we would have had three base burners going, two below and one in my room; three fires to attend to. About one-third less coal is now doing all the work as well, and giving us the cheer and ventilation of an open fire besides, with only one-third the work to care for it that it was for the three stoves. Isn't that glory enough? Of course there is a limit to the capacity of the grate fire. It has done more than we dared hope for in the way of comfortable heating for fall weather, and it will do the same in the spring. When a temporary cold snap comes we can quickly build a little fire in the furnace with wood to help out. When freezing weather arrives to stay, a steady coal fire will be kept in the furnace also. No heat can get away from us up the furnace flue, either, under any circumstances, any more than escapes from the grate. Now, thousands of friends are wasting a large part of the heat from fuel burned in grates. Other thousands want the cheer and health of an open fire, but fuel is high and they cannot stand the expense, where so much of the heat is lost. The writer has taken great pleasure in studying out these contrivances and freely giving them to all. They mean the most healthful heating, perfect automatic ventilation, the greatest cheer and comfort, and at the same time economy to the very last cent. A ton of coal burned in our grate will give as much heat as it is possible to get out of it in any other way. These are strong statements, but absolutely true. We are doing it.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Potato House.—Someone at Gurdon, Ark., who fails to sign his name writes as follows: "I want to ask more questions in regard to that potato house. One brick mason here told me that he did not think the flue would draw 40 feet in length unless it ran up at the other end fully 18 feet. How large ought the furnace and flue to be, and should the chimney be larger than the flue? How large ventilators for a house 10x40 feet? Please answer by return mail." Now, of course, we did not answer by return mail, since we did not know whom to write to. The idea that a brick flue 40 feet long will not draw will amuse old florists who have been accustomed in the days before hot water apparatus to make them 100 feet long. In fact, we once had a flue 150 feet long, which drew till it almost melted the door in cold nights. Of course the longer the flue the deeper the furnace must be in the ground. For a forty foot house I would build the furnace three feet under ground, excavating a pit for the purpose with room enough in front for firing. I would make the furnace inside 19 inches wide by 30 inches deep, and would surround it with a 9-inch wall. Have an iron door and grate with ash pit below. Make the top of the furnace arch on a level with the floor of the house inside. From the grate surface and top of arch take the flue with a 9-inch wall up at a sharp incline to the level and then build it on a gradual rise to the further end. Ten feet from the furnace begin to make it of brick on edge, laying a brick and a half crosswise as a floor, and two bricks on edge on each side drawn in at top so that a brick can be laid crosswise as a cover. Parget it well as you go. An 8-inch terra cotta pipe will answer 10 feet from the furnace and can be taken into the chimney of the same pipe with an elbow at the end. A rise of 1 foot in the 40 feet will make it draw well enough, and a slatted floor can be made over the flue but not touching it, of course. Do not run too much of a blast of wood in the furnace as you may crack the flue. In a house 40 feet long we would make two ventilators, one on each side of the roof and about 3x4 feet. Ceil and pack the roof like the sides of the house.

Fertilizer for Potatoes.—F. C. Curtis, Sandy Creek, Me. — "Will you please give in the P. F. a formula for a potato fertilizer with nitrogen supplied by nitrate of soda and dried blood? Would it be best to use any other form of nitrogen than these? We have been using your formula with nitrate and cottonseed meal, but there is so much low grade cotton seed meal coming into our market that we thought dried blood would be better." A good article of cotton seed meal will have about 7.10 per cent. of nitrogen, 1.80 per cent. of potash and 3.10 per cent. of phosphoric acid. The dried blood will have 12.50 per cent of nitrogen, no potash and but 1.91 per cent of phosphoric acid. You will see, then, that it is almost entirely valuable for its nitrogen. In using it in place of cotton seed meal I would add to the amount of acid phosphate, decrease the amount of nitrogenous organic matter advised in the cotton seed meal, and let the amount of potash remain as before. That is, if you are using the formula of 900 pounds acid phosphate, 600 pounds cotton seed meal, 100 pounds of nitrate of soda and 400 pounds of muriate of potash, we would make it 1,200 pounds acid phosphate, 400 pounds dried blood, 100 pounds nitrate of soda and 400 pounds muriate of potash for a ton. This will give you a little more nitrogen than the first formula and more phosphoric acid, while the 10 per cent. of potash will be sufficient still, we think.

Farming in Virginia Mountains.—F. A. Crabtree, Effna, Va., says that he has profited by the instructions of the P. F., and has improved his land. But he has not succeeded in growing cow peas and clover as well as he could desire. Thinks his land needs humus and lime, too, as there is a great deal of sorrel on parts of it. Has a field from which he cut about a fourth of a crop of clover, red top and timothy, early, and the second crop of clover is ripe. Wants to plow this winter and sow in oats, using a mixture of 10 per cent. bone and 4 per cent. potash. "Will this be profitable? Then, when oats are off, prepare the land and seed to wheat with the same fertilizer. Will it pay me to buy air slaked lime at ten cents a bushel and haul it five miles for oats, or would it be better for wheat? I want to get heavy crops of clover and timothy, which do fairly well after cow peas. Land makes 30 bushels of corn per acre. Would Canada peas sown with oats make a better feed and improve the land? What grasses will be best for hay and pasture?" The best place we have ever used lime is on clover the second spring. Do not jump to the conclusion that lime is a manure. Your land may need lime. It will pay you better to buy the lump lime than to buy the air slaked. A carload of lump lime of 400 bushels will slake easily 1,000 bushels. You will then have to freight but 400 bushels to get 1,000, and will have but 400 to haul to the farm, and we have found that we got our lime in this way cheaper, and that the lump lime freshly slaked on the farm was more effective than the air slaked article. We think, too, that in your elevated country cow peas will be uncertain as a hay crop by reason of cool nights in summer, but that they can be used as a means for getting the land in clover. We think, too, that the medium red clover is far better for your use than the mammoth. For hay in your section we would use a mixture of timothy, red top and red clover, sowing the grass seed in the fall and the clover in the early spring, and would use plenty of seed. When we were farming in the mountain country of Virginia our neighbors laughed at us for sowing 15 pounds of clover seed per acre, but we noticed that our crops were always enough better than theirs to pay for the extra seed twenty times over. If you will put the bone and potash on the oats and wheat liberally it will pay to use it, but on wheat after oats we would add some ammonia in the fertilizer. Make a mixture for this purpose of 1,200 pounds acid phosphate, 600 pounds of tankage and 200 pounds of muriate of potash, to make a ton, and use 300 pounds per acre. Get a stand of clover and grass and use your lime on this the second spring. Canada peas will probably do well with you, and mixed with oats will make good hay.

Gardening in Arkansas. — Jas. W. Morris, Faber, Ark.—"I have a quarter of an acre garden of deep, sandy soil, sloping slightly east to a branch. Had four tons of horse stable manure on it in 1902, and this year five tons, both times broadcast. I want to use commercial fertilizer another year, as the manure makes too many weeds. Tell me how to manage for cabbage, collards, onions, beans and peas. I want to fertilize only in the drill next year. I have also two acres of level land on a spring branch from which rye was pastured last winter and the land put in peas this summer. Cut a ton and a half of hay. Have manured with 9 tons per acre of clear horse manure broadcast and sowed turnips. Want to put it in cotton next season. Will I need any kind of commercial fertilizer on this land? Land rather heavy." On the sandy garden it will pay you to use fertilizers heavily to get good crops of vegetables. Our market gardeners in Eastern North Carolina use fertilizers very heavily every year on truck land, and good crops of garden vegetables can only be produced by liberal manuring. Such crops as cabbage and collards need heavy broadcast fertilization of not less than 1,000 pounds of high grade complete fertilizer per acre. The onions should have a similar fertilizer under the rows as the roots extend less widely. Peas and beans need lighter fertilization. Using stable manure and fertilizers alternately one year after another will pay better than using either all the time, and as you can get manure readily it will pay you to use it liberally and follow with a heavy dose of fertilizer the next year. With this treatment the beans and peas will need little more than a dressing of acid phosphate and potash, but the cabbages and onions must have a complete fertilizer. On the land where you now have turnips and wish to plant cotton next season after manuring liberally and growing peas this summer I do not think that you will need any complete fertilizer on the cotton, but its fruiting will be greatly helped by the application of a mixture of five parts of acid phosphate to one of muriate of potash or four of kainit, at rate of 300 pounds per acre. The kainit will have a good effect on cotton on land of that nature in preventing rust.

Lime and its Use. — A. C. Snyder, Gaibleton, Pa.—"1. Will not the use of lime enable one to get a stand of clover on land that it now fails on, but was once good to produce it? 2. Is the ground lime better than the air slaked? 3. How about the lime described in the enclosed circular? 4. Is the white lime better than the gray? 5. Is the application of 400 to 500 pounds, drilled with the grain in a four-year rotation of corn, oats, wheat and clover of as much benefit as 25 to 50 bushels before planting to corn? 6. Cannot one increase the fertility of his land by the use of lime and clover in a four-year rotation such as I have mentioned? Have tried cow peas and failed with them. Warren's Extra Early ripened some seed the first year, but failed wholly the second year." 1. If the reason for the failure of the clover is acidity of the soil from organic matter, lime may help to restore the alkalinity which is necessary for the success of the microbes that enable clover to get nitrogen from the air, and will release potash that the clover needs, if there is an abundance of potash in the soil, for the lime will put none there. 2. Fresh ground lime is far better than the air slaked, and freshly water slaked lime is to be preferred to any other. 3. The circular you send describing a certain "patent" lime is as complete a mixture of ignorance and nonsense as we have seen for a long time. For instance, it says: "Hydrate is the fertilizing property of lime; that carbonic acid gas neutralizes hydrate; that lime, when exposed to the air attracts carbonic acid gas; that the fertilizing properties of phosphate, potash, pulverized bone, etc., are lime or its equivalent; that acid is not a fertilizer, but when used in excess is injurious both to soil and vegetation; that acid is used in fertilizers to rot or dissolve them so that they will be available as plant food; that goods made from tankages, slaughter houses, etc., are not fertilizers, but manures; that one ton of 'Patent Fertilizer Lime' is worth more than two tons of phosphate." You ask our opinion of this. Lime freshly water slaked may be well termed hydrated lime. Its fertilizing property is lime simply. Hydrate is simply a condition, not a substance. The fertilizing properties of phosphate and potash are phosphoric acid and potash, and lime has neither of these in it if it is pure lime. Sulphuric acid is used for the purpose of dissolving the phosphate rock so as to make the phosphoric acid available. When an acid is used for this purpose it is no longer an acid, but becomes a neutral salt, and the talk about using acid in excess is simply nonsense, for if the dissolved rock had any free sulphuric acid with it it would soon find a base in the soil and form a salt. The circular says that the patent lime owes its value to the fact that it is dissolved by steam. Now anyone who has ever slaked lime with water knows that it makes steam very freely, and we cannot see where the "patent" comes in. If your land needs lime, the best thing you can get is fresh lump lime, and slake it to a powder with water. In this way you will only have to freight about one-third the bulk, for it will increase from two to three times in bulk by slaking. Buying slaked lime, either steam or air slaked, you will have to freight all this water. 4. The lime that has the largest percentage of pure lime is the best, and the color has little to do with this. Lime is an essential plant food, but all arable soils have lime enough already in them for all purposes of plant food, and additional lime is used for the effect freshly slaked lime has on the mechanical character of the soil, and as a reagent to bring into availability plant food already in the soil in an insoluble state. It is also useful in sweetening acid soil, and in promoting the nitrification of organic matter. On a soil containing much vegetable matter lime often has a very marked effect, and farmers at times jump to the conclusion that lime is all they need to make their land rich, and they generally find out after years of liberal use of lime that their soil needs heavy applications of commercial fertilizers and manure, and that lime no longer gives them the return that it did at first. This is simply because they mistook its first effects, and thought, like the writer of your circular, that they could get phosphates and potash in the lime. A bushel of fresh stone lime will weigh 93 pounds, and will slake three bushels, weighing 135 pounds. If the lime is impure, or magnesian lime, it will weigh 80 pounds to the bushel and will slake two bushels weighing 110 pounds. So you see the advantage of freighting unslaked lime. The best limestone contains from 90 to 98 per cent. of calcium carbonate, and when properly burned will make a pure lime. Where the stone has large mixture of magnesia and other matters it makes a poor lime and slakes slowly. 5. We would never apply lime in the drill with small grains, nor, as a rule, on corn land. The best place in a rotation such as you describe is on the clover the second spring. If it is necessary to use lime to get a stand of clover we would use it broadcast on the land to go into corn after the land had been plowed and prepared for planting. One thousand pounds per acre of freshly water slaked lime is heavy enough at any time. This will be less than 25 bushels. An even lighter application once in the round of the rotation will give better results than a heavy application less frequently. 6. As we have said before, if the land fails to produce clover because it has become acid through the plowing under of green crops, lime will help you get clover. But neither lime nor clover will furnish you any phosphoric acid or potash, both of which are as essential as lime, and generally more deficient in the soil. Clover will get nitrogen for you from the air. But clover is one of the greediest consumers of phosphoric acid and potash, and if the soil is deficient in these they must be restored, and lime will not restore them, but will help you get out the potash that may be already there in an insoluble state. You can certainly increase the productiveness of your land by the proper use of lime in connection with clover, provided you supply the other elements of plant food that the soil may need. We doubt that you can do much in your section with the cow peas. The stronger growing sorts may come in fairly well for pasturage, but you cannot depend on their ripening seed. We hope that we have made the lime matter plain to you. Let the so-called "patent" lime alone and buy pure rock lime and slake it for yourself.

Cotton Troubles in Texas. — W. D. Cowan, Rusk, Texas. — "Since the boll weevil has apparently come to stay here, practically all cotton made has to be matured by the middle of July. I want to know how to get it to fruit as early as possible. I do not understand why poor land matures its crop faster than rich soil. This year I put 1,300 pounds of commercial fertilizer on nine acres, and the result was plants 5 to 8 feet tall. On the bottom land some unfertilized rows are not distinguishable from the others, as we had lots of rain. But for the weevil I would have made from a bale and a half to two bales per acre on the bottom land, and will probably make three-fourths of a bale. The land has been lying in grass and lespedeza for ten to fifteen years, and is sticky red which will not scour from the plow. The lespedeza grows knee high where it is protected from stock. I judge that the land only needs phosphoric acid and humus. Will phosphoric acid help to hasten the maturity of the crop? I have the twelfth of an acre planted in King cotton seed from North Carolina. It was late planted and is three feet high, much better matured and not fertilized, but my main crop is later than those of my neighbors, though I have larger weeds and no more fruit. I cultivated mine almost flat, while they cultivated in the ordinary way. My corn land has a very heavy growth of crab grass 2 to 3 feet tall mixed with peas. Is it possible to turn this without burning and get it in shape for cotton?" From what you say in regard to the growth of your cotton it is evident that your soil has an excess of nitrogenous matter over the mineral elements. It is not probable that your soil is deficient in potash, judging from its nature. But we believe that you are not far from correct in assuming that its needs are rather for phosphoric acid. Then, too, while, as a rule, we advocate flat culture under ordinary conditions, your conditions are peculiar, and we believe that there is no doubt that the plowing and hilling of your neighbors had the effect of hastening the maturity of the crop by the cutting off of some of the feeding roots in the plowing, which, under normal conditions, would be a detriment to the crop. We believe that in the weevil-infested section it will be necessary for you to get seed every year from further North in order to promote early maturity. The crop should be planted as early as it is practicable for it to grow, and an application of plain acid phosphate will have a better effect on the fruiting than a complete fertilizer. Following a heavy growth of crab grass and peas turned down there will be the greatest abundance of nitrogen and humus for the cotton crop, and we believe that if you balance this with two or three hundred pounds per acre of acid phosphate you will find that the maturity of the crop is hastened. At any rate it is worth trying. Then, if the season is favorable to rapid growth, plow as your neighbors did, but in a dry season we think that the flat culture will give as good or better results. If you let the crab grass and peas die down and do not attempt to plow them till after frost has killed them you can turn them with a good two-horse plow. Then write to the Secretary of Agriculture and ask him to send you a copy of Farmers' Bulletin No. 163, on "Methods of Controlling the Boll Weevil."

A N. Y. Man's Experience.—Homer W. Carl, Clinton Corners, N. Y.—"I have two silos, one round and one square with the corners cut off. The round one I built this year; square one have used for three years with entire satisfaction. I plant corn two and one-half feet apart and cultivate both ways with ordinary steel frame cultivators. It certainly beats drill corn, for the reason that the weeds can be kept under control. Most farmers in this section who have planted in drills this year have scarcely any corn or stalks either, the weeds having smothered the corn, it being too wet to work it. I prepare, or start to prepare my ground in the fall by plowing the sod quite shallow, and drill in two bushels of rye per acre with a fertilizer containing 10 per cent. phosphoric acid and 6 to 8 per cent. potash, 300 to 400 pounds per acre. I sow as early as I can, generally the latter part of August. The rye makes a big growth, which I pasture off the last thing before I stable my cows. Get enough milk off of it to pay for my labor. I draw manure as I make it and spread through the winter if the ground is bare; can't spread manure in snow and tell what kind of a job I am doing until the snow goes off, and it is liable to kill the grain by forming chunks of ice, especially if the manure is coarse and the man careless about spreading. In the spring I do not begin to plow until the rye has made about all the growth it will, then I put on a chain to drag it down and plow full depth of soil, not minding if I turn up a little subsoil. I finish the job with a 20-inch cutaway harrow; use three horses and pulverize earth clear down to my rye straw carpet. Of course I level off with smoothing harrow. I always use hand planters and if the dirt is dry push them as deep as they will go. Three men can mark one way and plant 10 acres in a day, 2½ feet apart in the rows. This is the way I raise my corn crop, and it has been uniformly good. Now I have both silos full of well eared corn. I want to ask you what I am to feed with it in the grain line to make the corn in the silos turn the profit that it should, in milk. (I mean the ears.) I intend to make the ensilage keep the cows with as little hay as possible. Have no clover hay. You may say 'plowing under that rye accounts for that,' but the clover has never been here since I can remember (that is about 20 years), but this year I have quite a good stand. It takes time and 'stick to it,' but I am getting there. Have been farming on my own acount about ten years. Have orchard five years old bearing; 700 trees. Never had but one borer in the orchard. Have lost but five trees since setting; trim every year, but don't spray; can't do it all. Would like to tell you about my experience with cow peas, potatoes, fertilizers, etc., but don't want to encumber your time with what you probably have heard a thousand times from others, but I want to say one thing about cow peas. An ideal corn year will be an ideal cow pea year, and the chances for cow peas in this section are the same as the chances for corn. This is my experience. One more thing I want to say. I take great interest in farm papers, especially the P. F., and do a great deal of reading in that line, but I have never seen any account of anyone raising corn after the plan I am following. According to my deductions there are a great many reasons to commend the theory. Would like to hear what you have to say about it, but won't feel slighted if I don't. I know you are like myself, a busy man. I did as Prof. Massey advised about painting inside of silo with boiled oil, and it gives good satisfaction. Am going to buy an engine to fill silos and saw wood. Do you recommend gasoline or steam? I would rather buy a gasoline on account of fire and less attention to operate." Your method of growing corn is a very good one. While we object to the turning under of green crops in hot weather, to be followed by sown crops, we have no objection anywhere to the plowing under of green growth in the spring for a hoed crop, as the weather and soil are not then hot enough to cause an injurious fermentation, and the soil gets aerated with the cultivation of the crop. We are glad to know that you are getting clover after so long a time without it, and we think that you will find a dressing of lime on the clover the second spring will produce fine results. On level land and in a wet season you can certainly keep corn cleaner in check rows, but there are sections of the country, like the hill lands of the South, where check rows are entirely out of the question, for the rows must follow the contour line of the hills. For a power to use on the farm we think that the modern gasoline engines are far superior to steam for general use. Be sure to get one with power sufficient, for while the small ones are all right merely for pumping water, they will not give you power enough for cutting silage, sawing wood and grinding. We are glad to know that you are trying boiled oil in the silo. After trying all sorts of coatings we have found nothing better.

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MRS. SCOTT.

An interesting letter to our readers from Mrs. Gertrude Warner Scott, of Vinton, Iowa.

Vinton, Iowa, July 15th, 1902.

In the summer of 1893, I was taken violently ill. My trouble began with pain in my stomach, so severe that it seemed as if knives were cutting me. I was treated by two of the best physicians in the county, and consulted another. *None of them suspected that the cause of my trouble was kidney disease.* They all told me that I had cancer of the stomach, and would die. I grew so weak that I could not walk any more than a child a month old, and I only weighed sixty pounds. One day my brother saw in a paper an advertisement of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy. He bought me a bottle at our drug store and I took it. My family could see a change in me, for the better, so they obtained more, and I continued the use of Swamp-Root regularly. I was so weak and run down that it took considerable to build me up again. I am now well, thanks to Dr. Kilmer's Swamp-Root, and weigh 148 pounds, and am keeping house for my husband and brother, on a farm. Swamp-Root cured me after the doctors had failed to do me a particle of good. Gratefully yours,

Gertrude Warner Scott

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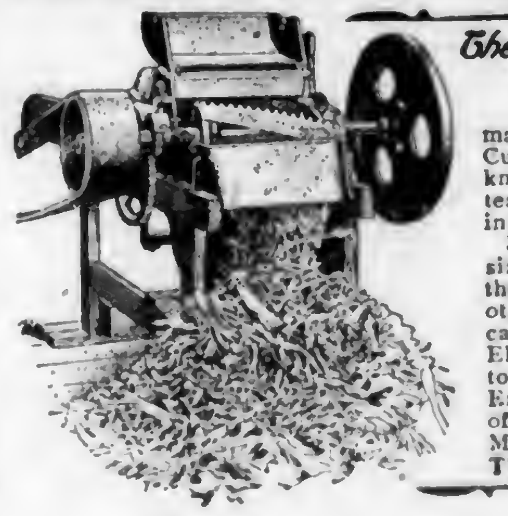

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Live Stock and Dairy.

A Problem in Cattle Breeding.

PROF. A. M. SOULE.

The cattle of any given locality have certain peculiarities which distinguish them from those found in other sections of the country. One who has traveled through the Southern States will be impressed with the fact that there are a large number of justly celebrated farms where cattle of all the principal beef breeds are produced under as favorable conditions as can be found anywhere. The animals are as nearly perfect in quality and racial characteristics as one could expect to find, though the one curious fact is that these herds of choice animals should be comparatively isolated and that a larger number are not found. Climatic and soil conditions do not explain the condition observed satisfactorily, because if they are favorable enough to secure a desirable development on some farms, there is no reason why the same should not be true of many others that are situated as favorably, possessed of similar physical conditions and have a soil capable of producing all the desirable crops for the maintenance of beef cattle at a reasonable cost. The most striking feature of the picture is the excellence of the animals found on these large farms, the comparatively small number when all the cattle in the territory are considered, and, finally, the great disparity between the well bred animals and the type generally met with in the surrounding country. Naturally, the animal of mongrel breeding predominates, but this is not essentially a trait of Southern cattle, for the scrub flourishes like a green bay tree everywhere. True, the numbers are diminishing and one can easily imagine the dawn of a day in the not distant future when his race and generation will have passed forever from the memory of mankind, a consummation that everyone interested in cattle can look forward to with encouragement. While the scrub predominates it is gratifying to know that his field of operation is being gradually restricted and that his owner is finding him so unprofitable that he is being forced to use better blood each year. The improvement in stock will go forward very rapidly when the small farmer comes to realize the importance of fencing in the range and so preventing the running at large of a class of very undesirable scrub sires which now roam the countryside without restriction. The small farmer imagines that a law compelling the owner of the land to fence up the range or requiring him to fence up his own land and care for his stock works hardship upon him, and accordingly he protests vigorously against any legislative action that would require him to look after his own animals. The injustice of the present arrangement cannot be fully appreciated unless one has seen the evil as it exists today in many States, for it not only injures the small farmer, but is a serious menace to the improved live stock of the progressive citizen who wishes to introduce a better class of animals into the community. One who has had any experience with fencing out the live stock of the countryside when there is no lawful restriction against its running at large knows what a difficult problem it is, and so the owner of improved live stock is likely to wake up some fine morning and find scrub animals mixed with his herd, and after a few experiences of this kind his patriotism and desire to improve the live stock of his home district has received a serious setback. Then, suppose he has sufficient means to introduce an improved sire, his neighbors who have not studied the stock question carefully, are of the opinion that he wants to charge too much for his service, and as they can get free service from the scrub animals ranging about the country, they do not see their way clear to support him in his efforts, and so unless he is a large land owner and can afford to maintain highly bred, high priced sires for his own individual use, his investment is a losing one. Thus, the progressive citizen finds it difficult to improve the stock in his community because he has no assistance from his neighbors, and his neighbors on the other hand not coming directly in contact with good stock nor realizing fully the importance of keeping up their stock, properly caring for it, selecting it and breeding only from the best types and destroying inferior animals and cultivating the land so as to produce plentiful supplies of winter feed, unfortunately think that as their stock ranges over some other person's land they are getting something for nothing, and so it is difficult, if not impossible, to improve stock on a free range; especially where the land is held by persons who are interested in it only from a lumbering or mineral standpoint and where the animals running on the range are owned by a large number of individuals. Were these tracts much larger and the animals ranging in that section owned by one firm, the proposition would be a different one.

It is surprising how firmly the idea is rooted in the mind of the small farmer that ranging cattle as outlined is like picking up gold dollars out in the "big road." He will gleefully tell you that he made his cattle at the expense of "so-and-so." When you ask him how long they are maturing and he states they are three years old and weigh 700 or 800 pounds, that he got 2½ cents per pound, that he lost all the droppings from his animals and has been using the money obtained from their sale to buy commercial fertilizers, he finds it difficult to appreciate your statement of the case and is inclined to think that you are joking and not really in earnest. It would be a blessing in disguise, though it would work some hardship in the beginning, should laws be passed in every State requiring every individual to look after his own stock and keep it off the land of his neighbors and off the public highway. It would do more to improve the class and quality of the live stock kept in the South than anything else at the present time, for under existing conditions the small farmer is a menace to the large farmer and to the progressive spirit that may be aroused in any community.

This unfolds the darkest side of the picture and it must not be concluded from the presentation of the facts, that no progress in animal breeding is being made. That would be a serious mistake and would not justify the progressive spirit and the renewed interest in improved live stock shown throughout the South. Evidences of an effort to improve the class of cattle throughout the country are met with everywhere, new sires of all the leading beef breeds are coming in in large numbers and the results of their use are now a matter of daily observation. A better class of stock is being developed through this system. The general class of cattle met with at the present time show evidences of Shorthorn blood, and by carefully selecting from a large number of animals cattle of fairly good quality can be secured, though their general average is below what one would naturally desire. Cattle fed on the Station farm in several instances in which the Shorthorn blood predominated have made satisfactory gains and have taken on flesh readily, distributing it all over the body, and when well finished making very satisfactory beef animals. The trouble at the present time is to find a large enough number of the kind of cattle needed for winter feeding. It is a mistake to suppose that the class of animals met with at the present time will not take on a fairly good form and make good gains if properly fed. The greatest trouble is the length of time they must be fed and the age they reach before making sufficient weight. These cattle fed all winter in the stall make better gains than one would believe possible if he looked into their origin and history, and while the profits from feeding this class of cattle are not as large as they should be, the feeder often makes a better profit, all things considered, than the man who breeds them and has to keep them through three years in order to get them of sufficient size to sell for winter feeding or for summer grazing. The principal defects of the cattle found in the country at the present time are shown in the coarseness attributable to the scrub type though the Shorthorn characteristics are clearly marked in a number of instances. Some of these animals made large gains, as the records show, and if enough of them could be had would make a satisfactory class of feeders. One of the principal defects observed is legginess. This is a striking characteristic and especially marked when the animals are first placed on feed. It is surprising how they fill out in the hind quarters and flank when fed for 150 to 200 days. If they are fed long enough many of them will make a very good type of export cattle and one who had seen them before feeding and after feeding would find it difficult to believe that they were one and the same lot of cattle. Besides being too leggy most of the animals have neither sufficient length, breadth or depth of hind quarter. They are also inclined to be cathammed, due to the trace of Jersey blood which so many of them possess. They are naturally much cut up in the twist and so open that the thigh is not well filled, and hence the hind quarter is light and so they do not kill out as large a proportion of valuable meat as would be expected or necessary for the largest profit to the owner.

Once in a while an animal is met with whose hind quarters are very well developed and whose back is straight and carries its width uniformly from the poll to the tailhead. But this animal is the exception rather than the rule. The common type met with is long and narrow in the neck, coarse in the head and ear, and because of the light covering of flesh the shoulders are very angular and stand out prominently. He is also narrow and flat in the ribs, shows a large barrel depression and a poorly developed hind quarter.

These are some of the principal defects of the type of cattle prevailing in the country at the present time, and from the description it is evident why many of them prove unprofitable as feeders. That the type is readily susceptible of improvement is shown by the characteristics of the better class of cattle one finds. That all the animals can be brought up to this type and carried beyond the same quite readily all realize who have had experience with improving native cattle. The pure bred sire owned individually or by a number of farmers in the community who are in earnest and willing to pay enough money to secure an animal of the right kind will solve the problem if he is advantageously used on the best cows and systematic selection pursued thereafter. In three or four years the animals in that particular region will have improved so rapidly and be worth so much more money that it will be a matter of monetary interest to the whole community. One of the greatest drawbacks to the rapid development of the beef type in the South has been due to the curse of the Jersey, though undoubtedly one of the finest of the dairy breeds. They are restricted to that special sphere and when sires of the Jersey breed, either pure breds or grades, are used indiscriminately on the class of cattle which is supposed to stand for and represent the beef interest of the community, the results can only be disastrous, and the use of Jersey sires has unfortunately been altogether too common a practice in the South. Probably this was due to the great interest in Jersey cattle and the success with which they have been bred and developed in the Southern States. The writer is intensely interested in the Jersey and wishes there were many more of these very excellent dairy animals in their proper sphere in the country, but that sphere is decidedly not in the field of the beef breeder.

Along with the introduction of improved sires must come better care and feeding of the cattle throughout the year. When the pastures become short they must be supplemented by forage crops. These can be grown and pastured off on the land and will prepare it the better for laying down to winter wheat and other crops. The treatment of the cattle at the present time is sufficient to account for many of their undesirable qualities, as they are now, as a rule, allowed to rustle for themselves, both summer and winter. In one sense a mild winter is a curse to the Southern cattle industry because the cattle can so nearly pick up an existence throughout the year that the owner fondly thinks that it is unnecessary to house and feed them; that this would be adding expense and labor where it is unnecessary. The idea is fast gaining ground, however, that the present practice with regard to the feeding of cattle in the winter and summer when the pastures are short is a mistake; that it is necessary to feed animals so as to keep them growing uniformly, winter and summer, in order to secure the largest returns to the owner. As soon as the doctrine of growing and feeding supplemental crops in the summer and winter becomes generally recognized, the improvement and development of Southern cattle will be assured, and the necessity of recognizing the importance of feeding so as to maintain a uniform growth cannot be emphasized too strongly in view of the fact that so many improved sires have now been introduced, the get of which in order to be satisfactory must receive better treatment than their immediate predecessors.

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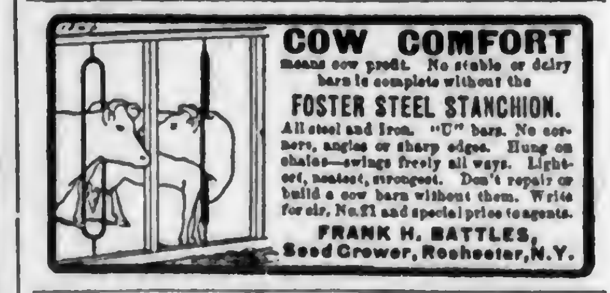

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Stock Query.

Feeding Query.—Suppose the feeding value of boiled strap leaf turnips to be 1, in comparison, what is the feeding value of, 1st, sugar beets boiled; 2nd, carrots boiled? I am feeding all of them, and the respective feeding value would determine next year's crop. I feed to hogs, which are doing finely.
Litchfield, Ill. J. WORTH.

(Reply by Prof. A. M. Soule.)

	Water	Ash	Protein	Crude Fibre	Nitrogen Free Ex.	Fat
Turnip	90.5	0.8	1.1	1.22	6.2	0.2
Sugar beet	86.5	0.9	1.8	0.9	9.8	0.1
Carrot	88.6	1.0	1.1	1.3	7.6	0.4

The foregoing statement gives the composition of the three varieties of roots in which you are interested. The writer has not been able to discover the digestion coefficients for boiled strap leaf turnips, sugar beets or carrots. The digestion coefficients of raw sugar beets and turnips show them to be practically equal in feeding value so far as the digestion coefficients are concerned. On the other hand, the composition shows that sugar beets contain considerably more protein than either carrots or turnips, and so this crop would probably have a slight advantage over the other two for feeding to hogs. There is comparatively little to choose between these crops, however, except in point of yield. The one that seems best adapted to your soil and climate, and the one you can count on as giving the largest yield is the one to grow. In the opinion of the writer sugar beets would probably be the best for your purpose, all things considered. As to boiling or cooking these foods so far, practical experience seems to indicate that it does not pay to cook these foods for hogs unless it should make them more palatable.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Worms.—Please give me a remedy for worms in a mare with foal. She is heavily fed and used about every day, but has worms, and probably indigestion. C. G. BAKER.
Triangle, N. Y.

It is highly dangerous to give any medicine to a pregnant mare for the purpose of ridding her of worms, as medicines for this work must necessarily be strong, hence apt to produce abortion. It would be best under the circumstances to reduce her grain rations and increase exercise or work. At the same time she might be allowed to lick rock salt and have lime water mixed with food and drinking water. Avoid hay cut on low, wet ground. If you have decided to run chances the safest medicine to give her for worms would be a solution of tar product disinfectant, such as advertised in the P. F.

Rheumatism.—I have a 4-year-old sow that is stiff in her front legs and shoulders and gets up with difficulty when on her side. Is tender to the touch just back of the shoulders and will squeal from pain at times. Frothy discharge from mouth and nostrils now and then. Eye is bright but have noticed that it would twitch at corners and sow would tremble all over when in pain. Sow was in perfect health until some time in August, when she got sick. At first there were some indications of fever, dry nose, dull eye, etc., but these soon passed away. Appetite was fairly good but she did not move about much. A month ago she gave birth to 12 healthy pigs, 10 of which she raised. The sow has continued in very much the same condition since the pigs came, but has become thin and the pigs worried her so that I have taken them away from her. She has been fed some apples, grass, shorts and a little corn. I have given no medicine. At times she would appear in a fair way to recover; that is, I could see that she was better for a few days. When she first got sick she would grunt with pain the whole day. She was running in pasture and fed a little grain night and morning. She was not fat, but in good breeding condition. Had never been sick a day. J. H. EYERLY.
Lincoln, Mo.

The disease seems to be rheumatism and you should see that she has a dry, comfortable sleeping place. Give her a four-ounce dose of epsom salts in milk or slop and follow three times daily with ten grains of salol in any way most convenient. Rub affected parts with a liniment composed of one ounce each of tincture of iodine and tincture of opium in soap liniment to make half a pint; shake and apply twice daily.

Contagious Abortion.—I have a herd of nine grade Jersey cows. Several of them have aborted at different stages of gestation, varying from 3 to 6 months. These cows have been pasturing on meadow grass and clover and timothy stubble. We have a bull, and neighbors' cows are often brought here for service. Could he have contracted it from them and communicated it to my herd? Is there any special treatment after this has occurred, and how long should they be kept from the sire? I have 3 yearling heifers; are they in danger of the same thing, providing I change bulls? H. D. GOLD.
Turbotville, Pa.

Your cows may well have contracted the disease from herd bull serving neighbor's cow, and he is the chief means of spreading the disease in your own herd and to all cows served by him. Separate all aborted cows and keep them away from other cows until they have again carried a calf the full time. Do not breed an aborted cow until she has been fully treated and has arrived at the time when she would have been bred had she not aborted. Wash out sheath of bull before and after each service by injecting a gallon of warm 1-1000 solution of chloride of zinc by means of a nozzle fitted in free end of a 6-foot length of half-inch rubber hose attached to a tin spout let into the rim at bottom of a large, clean pail to be hoisted above animal's back by means of a small rope and pulley. With same solution sponge, wash or spray vulva, tail and inside of thighs of each pregnant cow once daily. When a cow aborts burn fœtus and all bedding. Clean up, disinfect and whitewash place where cow has been. Flush out her vagina once daily for two weeks with two gallons of milk-warm 1-1000 solution of chloride of zinc, and then twice a week for a month. Give all pregnant cows half a drachm of pure carbolic acid night and morning every other day, diluted with water and mixed in food, sprayed upon hay or mixed with salt. If this cannot be done, make a 2 per cent. solution of carbolic acid and with hypodermic syringe inject under skin of each pregnant cow from first to last of pregnancy every ten days two drachms of the solution. Heifers will be prone to the disease if herded with affected cows or bred to tainted bull. Consider the disease as contagious as small pox and you will understand the necessity of cleanliness, disinfectants, whitewash and quarantine to prevent its spread.

Dairy Feed.—All owners of milch cows are vitally interested in the cow feed question. Any information on this important subject is eagerly sought by advanced dairymen who are intelligently seeking for the best results from their herds. To obtain such results a balanced digestible ration is indispensable. A new book entitled, "Feed Your Stock for Best Results," gives the latest information on this subject. We strongly advise every reader of the P. F. who owns a cow to send for a copy of this book. It may be had free, if you write the Glucose Sugar Refining Co., Department G., Chicago, Ill., and mention the P. F.

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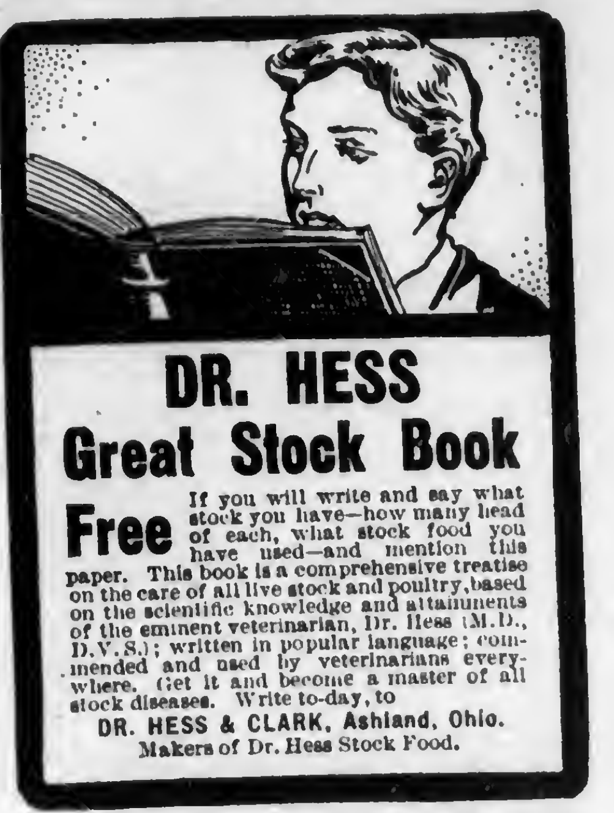

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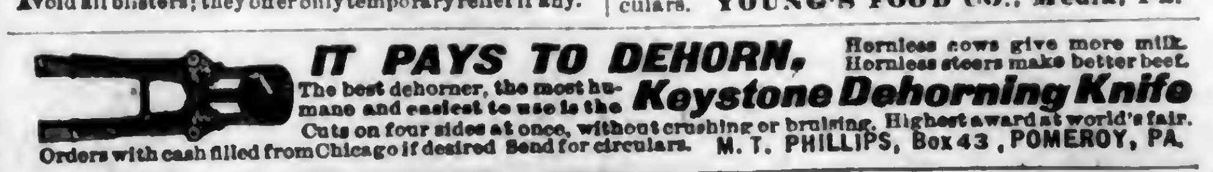

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Hairy Vetch for Seed.—I had intended to sow another patch of hairy vetch in a portion of the apple and pear orchards. Last spring and early summer the patch of vetch was a complete tangle of verdure and a sea of flowers, the plants beginning to bloom in May and continuing until mid-season. But I got no seed, and that is just what I was after. My cattle did not seem to like vetch. Where staked out in pasture they refused to touch the few scattering plants within their reach. This might have been because they were not used to the plant and its flavor. But they eat the hay all right. The value of the crop is probably mostly in covering the surface of the ground in orchard, to give protection in this way during winter, and to improve the soil, especially in regard to its contents of nitrogen and humus. I had a letter from John L. Chase, of Adin, Cal., saying that he used to experience the same difficulty of getting vetch to produce seed, but finally succeeded by cutting at least one crop (for fodder or hay?) just as it came into bloom, and letting the next crop mature seed, which it will do freely. Vetch in Northern California, he says, will produce three good crops the first year, if sown in the fall. The second year he gets three crops of green forage, and then a crop of seed by August 1st. About alfalfa, he reports that it sets seed only on second or third crop.

Selecting Corn for Seed.—The proper time for selecting seed corn of any kind, undoubtedly, is before the corn is cut. This should at least be done with "stock seed;" that is, corn from which corn for seed should again be selected. We can go through the field and select most prolific plants of the desired type. When this has been neglected, there is, of course, no other way than to select good ears when husking. This, indeed, seems to be the general practice. The husks, or at least part of them, should be left on the ears. Braid the ears together, so that they may be hung up in a safe place, an airy loft where there is no danger of mould or attacks by mice, rats, squirrels, etc. With sweet corn we have to be particularly careful. The ears must be gathered before they are exposed to a frost hard enough to kill the germ while that is still soft. When the corn has once become thoroughly dry, no amount of cold will hurt it. In an earlier issue I gave an illustration of a sweet corn drying house as described by a writer in an exchange (Ohio Farmer). The lower floor and south side of the upper floor, he says, are arranged for sweet corn. The most essential part of drying sweet corn is to have a free circulation of air. Therefor I cut doors through on both sides and on the back. They are hung on hinges and can be opened and shut when needed. The sweet corn should be spread in layers; therefore we use racks made of 1x3-inch slats placed 20 inches to 2 feet apart, one above the other. If the corn is green and milky when husked, it should be put on the racks very thin, not more than two or three ears in depth, and turned frequently; but if it is more matured and the kernels are glazed, it may be put on thicker. In the building illustrated, as before mentioned, this correspondent says he can dry 500 to 600 bushels.

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Current Comments.

Celery Queries.—A. Nordwick, Alexandria, Ky., writes: "Kindly inform me as to the best method for storing celery outside for winter use. Heretofore I have had mine stored in the cellar, which is not very satisfactory, as it grows hollow. Would it do to put six rows together in a trench and cover with straw or litter to keep out frost? What causes celery to grow hollow?" If the cellar is a bit damp, and dark, and the celery properly placed upon the floor with damp sand, muck or soil packed around the roots so that the roots are kept continuously moist and the tops always dry, the new growth in good celery will ordinarily be solid and brittle, and the flavor exquisite. If the stalks grow hollow, I fear the strain of seed was to blame, or else there were other unfavorable conditions during some stage of the plants' growth. If the stalks grow hollow under favorable cellar conditions, I fear they would grow hollow also when stored in a trench outside. Trenches for the winter storage of celery are usually dug quite narrow, and the plants set upon the bottom, upright, and as closely together as they can be packed, many growers even shaking all the soil off the roots. The trench should be just deep enough that the tops reach about even with the general surface. A wide board, or an A-shaped trough of two boards each is then covered over the trench, and litter and soil applied as ground freezes.

Ownership of Bee Tree.—A reader in Glens Falls, N. Y., writes that he has found a tree on the highway, in front of another man's property, which contains a swarm of honey bees, and would like to know if it is lawful for him to cut the tree down, or to use other means to obtain the honey, and is there any way that he could hive the bees? The finder of a bee tree which stands on someone else's property, can get a property right in the bees, by marking the tree or giving notice, but he has no right to cut down the tree without the owner's consent. That seems to be all there is to it.

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A Puget Sound Report on Early Potatoes.

F. A. COWELL.

I note you seem to be well satisfied with Early Ohio as an extra early potato. Have you tried Admiral Dewey? On some of my shot clay Early Rose, Early Ohio, Burpee's Extra Early and Salzer's Sunlight were no good as earlies. On sandy ground they would not grow to any size. I tried Dewey on same ground, only lightly fertilized with cow manure, and got at the rate of 400 to 500 bushels per acre, in drills 30 inches apart, two eyes to piece. One row was 18 inches from duck yard on one side, and 18 inches from Prodigious peas on the other, so I could only cultivate them twice, but water from duck yard trough seeped through and kept part of the row moist, and this part yielded at rate of just 1,000 bushels per acre. The rest was dust, but they grew so quickly that they escaped serious damage by drought, something no other potato has done for me, in spite of all claims of earliness. Some time ago you mentioned sweet potato pie pumpkin as being bitter in some sections, but not with you. Well, it was like quinine with me. Have you tried Vick's new cucumber "Lemon?" It is fine for home use; sweet and crisp. A neighbor has one vine in moist ground that spreads out over 8 feet square, and it is loaded with fruits and blossoms by the thousand.

Lakebay, Wash.

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Jeffersonian Simplicity.—Thos. Jefferson, third president of these United States, was skeptical of the science of medicine, believing in permitting nature to re-establish order in the system when any function was deranged, and discussed the subject frequently, with the same interest and earnestness that he did theology and politics. "I believe," he said, "that there are certain substances by which, applied to the living body, either internally or externally or both, nature can be assisted, and by such assistance accomplish in a short time what nature otherwise would do slowly." The Vitæ-Ore remedy, with which the readers of this publication are largely familiar, is offered by its discoverer and proprietors as an aid to nature, to assist in the natural healing and recuperating process. It is itself a product of nature, a geological discovery, mined from the ground as are gold and silver, different from anything which has ever been offered of a remedial character, and as such should commend itself to even those most prejudiced against the use of advertised treatments. It contains in its composition free iron, sulphur and magnesium, elements ideally calculated, to, as Jefferson says, "assist nature." The fair and liberal offer to send one month's treatment on trial, made in these columns by the proprietors (Theo. Noel Co., Chicago), is certainly most deserving of consideration.

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Wire Fence on Trial.—The Advance Fence Co., 47 G Street, Peoria, Illinois, so well and favorably known to the farming public by the high quality of their wire fence and their successful advertising of fence "direct from the maker to user," are now offering their fence on the thirty day free trial plan to our readers. The responsibility of the makers and the superior quality of Advance Fence make this offer one of decided interest to all concerned. The company making this fence show their confidence in their product by putting it in your hands to examine and erect, before final acceptance. The matter of price-saving in taking advantage of their offer is an important item also, to be considered by the man who wants the best fence and wants it at bed-rock, factory price. It will pay the reader to write to this firm and obtain price lists and full facts before placing any order elsewhere. Mention the P. F. when writing.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Locust for Timber.

In a letter from a reader in New York, he asks if the yellow locust could be easily raised from seeds, as he desires to attempt it, looking to the setting out of seedlings for timber purposes. There is no great skill required to raise the locust from seeds. Being very hard, a good soaking in hot water for a day or two is a great help to their germination, but many nurserymen who raise them largely do not think of first soaking them, but sow them as they are in the early days of spring. The question of its use as a timber tree is quite another matter. The destruction of the tree by borers is so widespread that the planting of it for timber is not to be advised unless in regions free from this pest. In this vicinity the borer is very prominent; and in the Cumberland Valley, Pa., where there is a good deal of natural growth, the trees are fairly riddled by borers. It is a good while ago since I saw the natural groves on Long Island, New York, but my recollection is that the borer was at work there, too. I would not risk the setting out of a grove of such trees in this neighborhood, valuable as the timber is.

There would be far more chance of profit in ash, oak, catalpa, and even wild cherry. Catalpa soon makes returns. Set about six feet apart, they grow quickly and aim to make upright growth instead of side branches, the latter growth being undesirable in trees for timber. This tree is one of the first to reach a profitable size of any tree good for timber. The speciosa is the one to use, being of more lofty growth than the others. The late Robert Douglas, an eminently practical arboriculturist, contended that the common wild black cherry, Cerasus Serotina, was a timber tree greatly overlooked. It not only grew fast and was valuable for timber, but was an extremely hardy tree, thriving much further North than many other trees would. The seeds of it grow easily and the tree itself is by no means a slow grower.

Protecting Roses in Winter.

What a lot of work it would save us were we to possess the climate of the South! No need then to talk or think of protecting our roses and other half hardy shrubs. It is true, readers of the P. F. in North do not have to protect all roses, but they do have to the ever-blooming class. From New York City southward there are quite a few sorts of the ever-bloomers which do not need protection, Soupert, Hermosa, Homer, Dijon, La France, Cachet and others among them. These freeze back partly, but it does not hurt them, the freezing being but a good pruning, for which they are the better. But these and other sorts of the same nature can be easily protected where necessary. Place some material about the base of the plants so that about six inches of the branches are covered. There is no need of more being protected, as this is enough to be the basis of a good growth the following spring. Almost anything will do for this protective material. Sawdust, sand, or even the soil itself heaped up is as good as anything of this kind. But where it can be done, there is nothing like manure. Pile this around the bushes, and there is both a protector and a fertilizer in it, and the food the bush receives causes it to grow amazingly when the season comes. The chief cause of these roses killing back so much is their late growth. In all Northern gardens their best growth is in September and October, and this late growth does not ripen by the time freezings come. But as mentioned before, and as an undisputed fact, the greater part of this growth would need to be cut off anyway in spring, so it would be labor lost to attempt to secure it. Place manure or whatever the material may be about the plants on the approach of freezing weather, not before.

Treatment of Gooseberries and Currants.

The best time to plant both gooseberries and currants in the Middle States is in the fall, and the earlier the better after the close of September. Both of these fruits prefer a deep, rather damp soil to any other, and to be in a partially shaded place, if possible. It is always possible to shade the soil about the roots, even if but by the placing of stones there, and this the plants show their appreciation of. Even the English varieties, with their large fruit, put up with our hot summers when so treated, which they will not do when planted in a hot, sunny place. In some small gardens in our cities where but little direct sunlight finds its way, thriving plants of the English gooseberries are often found. Both the gooseberry and the currant fruit on the small twigs of previous seasons, hence it is well to prune back some of the shoots of every season, to induce a growth of a twiggy nature. During winter or in very early spring this pruning should be done. Sometimes there are too many shoots in the centre of the bushes, and in this case it is better to cut some clear away. Do not cut them to leave an eye or two behind, as these eyes would break into shoots again, making the plants even more bushy than before. Regarding sorts, of all the red currants tried none has pleased me better than the Versailles; and Cherry, Red Dutch and Fays have been tried. In white, the White Grape does the best in our soil.

It would seem that taste for the black currant has to be acquired. But few of them are planted in our country, while in Europe, it leads all others, so much of the fruit is used in the making of preserves. In the line of gooseberries, our native sorts and their improved varieties have still to be our main reliance. Of the old sorts Downing and Houghton are much grown. Downing is a green one, Houghton, red, and both, though rather small, are very productive. The improved sorts are Columbus, Smith's Improved and Triumph. All are green or greenish yellow, but of much larger size than the old types. Though these are all American seedlings, the Columbus and Triumph are from seeds of the English sorts. Both the gooseberry and the currant are satisfactory fruits to grow. What insect enemies they have are easily controlled. Although fall planting is to be preferred, the plants do very well set in early spring.

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Horticultural Notes.

Pink Dogwood, a variety of the common white dogwood, with lovely pink flowers, is a gem among small trees. It is one of the things which all lawns must have.

Double Flowering Crab.—One of the loveliest of the newer small trees is Bechtel's double flowering crab, a white flower with a deep pink centre; the buds are wholly pink before expanding.

Watering Trees.—Although trees need water but seldom when planted at the proper seasons, the soil containing moisture enough, they should have it if at all dry. A good soaking solidifies the soil about the roots, which is just what the trees want.

IS YOUR STOMACH ON A STRIKE?

There is Nothing to Prevent You Employing a Substitute to do its Work.

There is such a thing as forbearance ceasing to be a virtue even in the case of one's stomach. There is no question but that some stomachs will stand a great deal more wear and tear and abuse than others, but they all have their limit and when that limit is reached, the stomach must be reckoned with as sure as fate. The best way and really the only effective way to treat your stomach when it rebels is to employ a substitute to do its work. This will give the weakened and worn-out organ an opportunity to rest and regain its strength and health.

Stuart's Dyspepsia Tablets relieve the stomach of its work by taking up the work and doing it just as one set or shift of workmen relieves another. They actually digest the food in just the same manner and just the same time as the digestive fluids of a sound stomach do. In fact, when dissolved in the stomach, they are digestive fluids for they contain exactly the same constituents and elements as the gastric juice and other digestive fluids of the stomach. No matter what the condition of the stomach is, their work is just the same. They work in their own natural way without regard to surrounding conditions.

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A Wisconsin man says: "I suffered the pangs of dyspepsia for 10 years. I tried every known remedy with indifferent results until I was told of the remarkable cures of Stuart's Dyspepsia Tablets. I bought a box, began taking them and forgot I had a stomach. Three boxes cured me completely. I have had no trouble whatever for a year and have an appetite like a harvest hand and can eat anything that is set before me without fear of bad results."

Stuart's Dyspepsia Tablets are for sale by all druggists at 50c. a box. The druggist never fails to have them in stock because the demand for them is so great and so pronounced that he cannot afford to be without them. People who could not get them of one druggist would go to another and would get in the habit of buying their other drugs there as well as their Stuart's Dyspepsia Tablets.

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POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Feeding New Grain. — Those of us who have had to buy grain or other feeding stuffs for our fowls, and now have a supply of new grain, may this be wheat, buckwheat, or corn, may be tempted to use this new home supply freely or exclusively in order to save further cash outlay. We can easily make the change too rapid and dangerous. New grain frequently causes bowel troubles in fowls, and any change should be made gradually and cautiously. All grains, before they are a safe food, should be well cured and seasoned. E. C. Dow tells in Tribune Farmer, how he manages this: "My usual method of changing from old grain to new is by beginning to feed some unthreshed grain at the time of harvest. A few forkfuls of oats or mixed grain thrown into the yard each morning will furnish work for the flock and provide as much of this kind of feed as they should have at first. There will not be any waste of grain by this method, and the straw can be easily taken up and carried to the barn and used for bedding the horses and cows. In fact, I feed a large part of my home grown grain in this way, and find it profitable. I never thresh any buckwheat, but allow the hens to eat it from the straw. But the straw, you say, what do you do with that? If you have ten acres of orchard, as I have, you can find use for it, as it makes the best of mulching. On no condition would I feed new corn until it had become thoroughly well seasoned, as it causes trouble more quickly than any other new grain."

There is one way, however, in which even imperfectly ripened or cured grain may be made safe for poultry, and that is by roasting or scorching. The new corn, if put into a hot oven for a reasonable length of time, and thoroughly charred or scorched, will be in good condition, and even good for correcting (rather than causing) bowel troubles. We feed new corn to some extent, although sparingly, continuing the accustomed shredded wheat waste rations and the meat meal, etc., in full quantity. Sunflowers, although fresh from the field, make a desirable change, and seem to have an excellent effect on the health of the flock.

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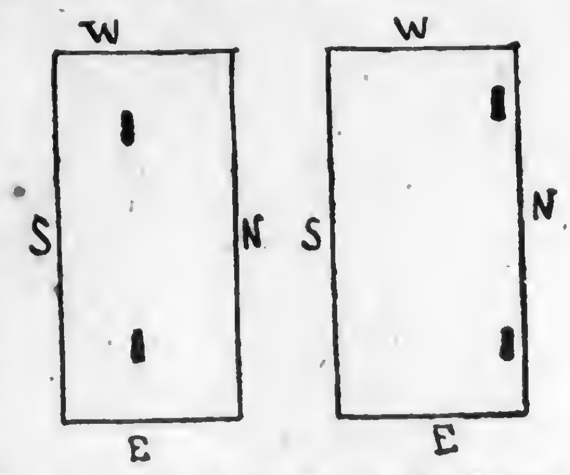
Queries Answered.

Location of Poultry Houses. — J. P. Bonie, Washington, N. C.—"The area of my poultry yard is nearly 1¼ acres, in which at present are two poultry houses, sizes of each being 15x7½ feet, front 10 feet high and back 7 feet, the floor being 2 feet above ground, leaving a space underneath for the fowls. There are droppings boards, under which are the nests, the eggs being collected from the back. The shape of the poultry yard and position of houses is shown in the figure at the left. What I desire to do is to subdivide the yard so as to have some green food for the fowls all the time. There is plenty of scope to the north for extension of yards. Would you advise moving one of these houses out, or simply rearranging? Land not being of high value here, it is not my wish to crowd the yards. Keeping, as I do, the poultry house scrupulously clean, would one of these house accommodate 65 to 75 head of Wyandottes? I have now only one breed of fowls, White Wyandottes. Would you advise my keeping another, say the Brown Leghorn, which I rather admire? I think eggs will be my chief aim. Would you kindly name a breeder or two you would recommend me to purchase White Wyandotte cockerels from?" The houses are usually placed at the extreme north or west side of the yard, as shown in the figure at the right. In a general way, perhaps, where there is an almost unlimited range, it will make very little difference where the house is located. This question should be decided by the best chances for giving protection, and by considerations of convenience. There should be something to shelter the hen house—a high, tight board fence, a belt of evergreen, a piece of timber, or a close planted orchard — anything, in short, to break the force of the winter winds and make the location comfortable for the fowls. We have known cases of a large number of fowls being crowded together in this fashion in a comparatively small house, but with unrestricted range, where the business was carried on with some sort of success for years. But it is not safe to crowd 75 hens into one house, and it would be better, probably, to divide the flock and put them in at least two smaller houses. Where eggs are the chief aim, no better breed could be selected, so far as we know, than Brown Leghorns, although the Wyandottes are a good breed, too. We surely would keep one breed only. Or if we had Wyandottes and desired to change to Leghorns, it might be done gradually, the Wyandottes being ranged out as fast as we could raise Leghorns to replace the others. As long as you have good success with the breed you have, however, you are doing all right anyway. As to the names and addresses of breeders from whom to purchase breeding stock, you will have to consult the advertising columns of the P. F., or of regular poultry journals. Cyphers is one of the good and leading incubators.



THE VALUE OF CHARCOAL.

Few People Know How Useful it is in Preserving Health and Beauty.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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PROF. W. F. MASSEY, Editor.

Philadelphia, October 31, 1903

NORTH CAROLINA Gold Leaf tobacco which last year, when there was an active competition in the market sold for 25 to 35 cents per pound, now that the American Tobacco Trust has it all its own way, sells at about $6 per hundred, and the tobacco farmers are in straits, for the price is below the cost of production, for the low price named is for the very highest grade only. In the meantime the products of the Trust on the market have been advanced in price, and their factories are running night and day. How long the American people will endure the tyranny of the various Trusts it is hard to say, but it is remarkable that they are so long suffering. There is law enough if the politicians would allow it to be enforced. And the farmers keep the politicians in office.

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Agricultural Education in Canada.

The Canadians are keeping well in the front in agricultural education. They have at Guelph the most complete agricultural college in America. It is an agricultural college purely, and is free from the association with schools of mechanics and engineering which have hampered the colleges in the United States. Now they have incorporated an agricultural school at Quebec which will maintain two or more schools in the Province, with farms attached, one in the district of Montreal and one in the Quebec district. Each of these schools will accommodate 50 students, who will be given a full three-year course, and boarded, all free of cost.

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Age as a Recommendation.

We fully agree with the Rural New Yorker that the debate carried on by some of the farm papers as to which is the oldest is of little interest to their readers. The Country Gentleman claims to be the oldest, but it shows none of the decrepitude of age. The P. F. is no spring chicken, but we believe that if Mr. Paschall Morris could see it now he would consider it pretty fairly vigorous in its old age. What the readers of a paper are interested in is not how old it is, but what it is. If it is all that such a paper should be it matters nothing whether it started a hundred years ago or yesterday. If it is not a real and helpful paper to its readers old age is a poor claim to put forward as a recommendation. As brother Collingwood says, the readers are more interested in what is to come in the paper than what was printed in its youth. Agriculture is advancing all the time, and if some copies of these old, old papers could be reprinted now they would be woefully behind the times.

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Duration of Vitality in Buried Seeds.

There has been so many apparent cases of germination in seeds long buried in the soil below the reach of the warmth of the sun and influence of the oxygen of the air that the Seed Laboratory of the Department of Agriculture is undertaking experiments with 112 different samples of seeds of most of the common field and garden seeds, grasses and weeds. Two hundred seeds of each are carefully counted, or one hundred of the larger seeds, such as beans, etc. These are of the crop of 1902. They are mixed with dry clay soil and packed in well baked, porous clay pots of four, three and two inches diameter, with inverted clay saucers as covers. They were buried in heavy clay soil, one complete set, six to eight inches, such as would take place in deep plowing. Twelve sets are buried twenty inches deep, and twelve more sets three and a half feet. All were buried in December, 1902. It is designed to take them up for test in from one to fifty years; the last of those buried at six to eight inches will be taken up in twenty years. It will indeed be wonderful if any survive to fifty years, while with many a single year will probably end their vitality. At any rate the experiment will be watched year after year with some interest by those who are interested in the prolonged vitality of deeply buried seeds.

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What is Worth Doing at all is Worth Doing Well.

Professor Thurston, of Cornell, in an address at the Iowa College, quotes the following by Stradivarius, the celebrated violin maker, whose works, as the centuries pass, increase in value:

> "Who draws a line and satisfies his soul,
> Making it crooked where it should be straight?
> An idiot with an oyster shell may draw
> His lines upon the sand, all wavering,
> Fixing no point or pathway to a point,
> An idiot one remove may choose his line,
> Struggle and be content; but, God be praised,
> Antonio Stradivari has an eye
> That winces at false work and loves the true,
> With hand and arm that play upon the tool,
> As willingly as any singing bird
> Sets him to sing his morning roundelay,
> Because he likes to sing and likes the song."

All of which is true in any line of human effort. The road to success in any employment lies right there, to be satisfied with doing only the best that is in a man. And the man will never do his best unless he is in love with his work, "Because he likes to sing and likes the song." This lies at the very bottom of all the talk about keeping the boys on the farm. The boy who works in a perfunctory way simply because he has to, and has never learned to love the farm and its work, had far better be somewhere else where he may get into some work that he can love and do well. In traveling through the country we see thousands of farms whose owners evidently are not in love with their work. Bushes crowd the highway and the fence rows, the plowing is poorly done and the cultivation worse. These are the men who do not find that farming pays. Such as they do certainly does not pay. The rule that whatever is worth doing at all is worth doing well, applies with as great force to the farm as anywhere else. It does not pay to farm badly, but that it pays to farm well has been abundantly proven by those who "like to sing and like the song."

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Feed Cattle for Distinct Purpose.

A North Carolina correspondent of the Southern Planter says: "Stock takes so much feed and care that they eat their heads off in winter." Then he goes on to say that he has two bulls, one a Red Polled and one a Polled Angus. He says that the Angus is evidently a purely beef animal and he wants to get rid of him, and asks the editor how the Red Poll cattle compare for dairy purposes with the Jersey and the Holstein. The editor tells him that they have done what no other breed did, taking the first premium at the Fat Stock Show for beef, and the first premium at the Dairy Show as a milk and butter producer. Doubtless an individual of this breed that had been bred to beef points was a fine beef animal, but we will warrant that it had been bred almost entirely away from the milk type. In like manner, the one that took the prize as a dairy animal could never have taken a prize as a beef animal, for to do as she did she must have been bred into pure dairy type. The two characteristics cannot exist in perfection in the same animal, as they are diametrically opposed to each other. The man who keeps a cow or two and is satisfied with a fair supply of milk for family use and a fair amount of beef or veal, may be suited with a dual purpose cow, but he will not and cannot have the best for either or both in the same animal. If we were feeding beeves in winter we would like to have them eat their heads off by spring and be in fine condition for beef. If we were feeding for dairy products we would be sure that the 'arf and 'arf animal would eat her head off in winter, and that her veal calf would not pay for the loss. The North Carolina man evidently does not want a beef animal, as he proposes to get rid of his Angus bull, which is the best possible beef animal for the South. Then one whose interest is in milk and butter should have the best milk making machine. He should have an animal whose ancestry has been bred for generations for the sole purpose of producing dairy products, and which is individually "built that way." The Red Polled cow may have taken the first dairy prize, but we could pick scrubs here and there that might have done the same thing, and one would have no certainty that her calf would take after her or after the beef type. A jack-of-all-trades seldom is as good as one with a definite hobby, be it a cow or a man. Good dairy form and capacity in a cow is an entirely different thing from good beef form, and no one animal can have both types in perfection.

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Corn Breeding Again.

Editor Jackson tells another correspondent that there is no way to prevent corn growing tall in the South on good land. Doubtless corn naturally grows taller as we go South, than it does in the North, but the ungainly tall corn, with ears out of reach, and a short top above the single ear, which one sees in the South, can be remedied by proper breeding, and a corn of much more sturdy character, with ears nearer the ground, and as much top above the ear as of stalk below, can be produced, and will be of much shorter stature than the commonly grown stock. The long legged corn has to be planted wide apart, while well bred corn is not only more productive of ears and of a dwarfer nature, but it can be planted in the South nearly as close as the Northern corn is planted. Cocke's Prolific as bred in North Carolina, is such a corn, and at the North Carolina College farm is planted in rows three and two-thirds feet apart, and ten inches in the row, and planted thus has made 88 bushels of corn per acre on upland. Southern corn bears one big ear almost out of reach, in good land, and it is the constant selection of the big ear that has brought it into this condition. If farmers could be brought to understand that two medium sized ears on a stalk will give them more corn than one big one, and that twin-eared stalks tend to get nearer the ground if the lower ear is selected for a few years until the ideal plant is had, then selection can be made from either ear of the best type, always getting it from twin or more eared stalks. Merely selecting by the ear will never improve the character of the corn except as to the ear itself. We must take the whole plant into account and get the ideal plant for our climate before giving so much attention to the character of the ear.

The Cream of the Bulletins.

Ohio Agricultural Station, Wooster, Ohio. Bulletin No. 137. Suggestions Concerning Apple Culture. By W. J. Green.

This is a useful bulletin of advice in regard to the cultivation and treatment of apple orchards as adapted to the soils and climate of Ohio. The author begins by saying that no attempt will be made to treat of all the questions relating to apple culture, but simply to touch on the principal topics that are of value in the conditions present in Ohio. There has recently been great departure from old methods in the orchard, and though there is some disagreement as to methods, owing to varying local conditions, it is nevertheless true that the best in apple culture is now well founded upon scientific principles. While orchardists should study all that pertains to their work, it is not always safe to adopt new methods without an understanding of the underlying principles, and a study of one's own conditions and environment. It is not only necessary to study one's own environment, but also to look even beyond one's own State in order to avoid needless competition with apple growers in sections where the business has been systematized and all of the details carefully worked out, and where facilities for handling, storing and shipping are fully developed. The advice is given in regard to the selection of a site for the orchard to choose elevated land above surrounding areas, such being usually well drained and more free from frost. A fairly fertile clay loam is considered best for the apple, and a rather infertile soil is better than one too rich, since the poor soil can be manured, but it is hard to check too exuberant growth in the very rich soil, so as to induce fruitfulness. As to the age of trees for planting, the bulletin very properly remarks that a tree taken from the nursery four years old is more apt to die than a younger one, and is far harder to get into a good shape. A man who once tried the setting of large sized trees for an orchard is not apt to repeat the mistake. Use no stunted trees, however. If one-year trees are planted, get the largest of that age. A thrifty one-year tree is better than a two-year-old tree of the same size. It is thought in Ohio that budded trees are larger at same age than grafted ones and that root gall often develops in grafted trees at the point of junction. The question of the latitude where the trees are grown is not a matter of importance. A tender Southern variety would not endure the Northern climate, but it is not conceivable that a hardy Northern variety becomes tender by being propagated and grown in the South, and, as a matter of fact, no difference has been noted in the behavior of trees grown in different climates. In regard to the distance of trees apart in the orchard, the statement is made that an orchard on the Station farm planted 28 feet apart now touches branches across the spaces. The trees are in their prime, but have no more room to develop, and there will soon be a falling off in the size and quality of the fruit. On such fertile soils 35 feet is near enough, and 40 feet would not be too far apart for the trees. On some soils 28 feet would not be too close, and there are lands in Southern Ohio where trees would not touch in thirty years if planted but 25 feet apart. The plan of using fillers seems to have much to recommend it until one has tried it. If fillers are to be used it is better to put in double the number that are to stand permanently instead of four times. Where too many are used they have to be removed before they have been of much service. Plant the trees 18x33 feet, and then when the fillers are removed the trees will stand 33x36 feet apart. The plowing of the earth to the trees and making a dead furrow between the rows is not a good plan as it buries some of the roots too deep. If the ridging is done before planting, and care is taken to carefully grade the dead furrow so that water will run off without washing, the plan would not be so objectionable. At best it is but surface draining, and does not aerate the soil as tile drains do. While spraying is, of course, needed it must be remembered that trees need food as well as medicine. Small grain crops allowed to mature should never be found in the orchard. To check the loss of humus and to prevent washing in winter some cover crop should be grown in winter. Rye and oats are used for this purpose, but should be plowed under in the spring before maturing and taking moisture from the trees. The growing of crops to fill the soil with vegetable matter should be commenced early in the life of the trees, since the larger the trees get, the more difficult it is to grow these crops, and the moisture-retaining nature of the humus is a very important matter in an apple orchard. The method of mulching adopted by some Ohio growers is discussed in full as something new. The writer of this has been advocating this method for the past 30 or more years.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts.,
Philadelphia.

ADVERTISING RATES.

Regular advertisements (Agate measurement.)	30 cents per line
Reading notices (Set in Nonpareil.)	50 cents per line

Special location, 25 per cent. extra.
Cuts inserted without extra charge.

Discounts on and after November 1st, 1903.

ON BULK CONTRACTS WE ALLOW THE FOLLOWING:

1,000 lines, to be used within one year	10 per cent.
2,500 lines, to be used within one year	20 per cent.
5,000 lines, to be used within one year	30 per cent.

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Three months (13 times)	10 per cent.
Six months (26 times)	20 per cent.
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The above schedules of discount cannot be combined. No smaller advertisement than four lines inserted.

In order to change the address of a subscriber we must have the *former* as well as the present address.

We cannot be responsible for money sent in letters **not registered**, or in any other way than by P. O. Money Order, Bank Draft or Check.

CONTENTS

AGRICULTURAL. — Management of a Grass Farm with Little Cultivated Land.—How to Build a Cistern and Filter.—A Ton of Coal Burned in the Grate Gives as Much Heat in the House as it is Possible to Get Out of it in any Other Way. 273
QUERIES.—Potato House. — Fertilizer for Potatoes.—Farming in Virginia Mountains.—Gardening in Arkansas. —Lime and its Use. 274
Cotton Troubles in Texas.—A N. Y. Man's Experience. 275
LIVE STOCK AND DAIRY.—A Problem in Cattle Breeding. 276
Stock Query.—Feeding Query. 277
VETERINARY. — Worms. — Rheumatism.—Contagious Abortion. 277
GARDEN.—Talks on Timely Topics.—Hairy Vetch for Seed.—Selecting Corn for Seed.—Current Comments. —Celery Queries. — Ownership of Bee Tree.—A Puget Sound Report on Early Potatoes. 278
HORTICULTURAL.—Locust for Timber. —Protecting Roses in Winter. 278
Treatment of Gooseberries and Currants.—Horticultural Notes. 279
POULTRY. — Seasonable Suggestions.— Feeding New Grain.—Queries Answered.—Location of Poultry House. 279
EDITORIAL.—Agricultural Education in Canada.—Age as a Recommendation. —Duration of Vitality in Buried Seeds.—What is Worth Doing at all is Worth Doing Well.—Feed Cattle for Distinct Purpose.—Corn Breeding Again. 280
CREAM OF THE BULLETINS. 280
COMMERCIAL. 281
HOME CIRCLE. — Editorial Chat.— Frank Strong's Victory. 282
Artificial Flowers of Tissue Paper. —In the Kitchen.—Correspondence. 283
OUR EXPERIENCE POOL.—Topic No. 596.—Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate? 284
FARM IMPLEMENT ANNEX. — Harrows.—Successful Shock Fodder Tie. —The Meat Chopper. — Milking Stool. — Fruit Evaporator. — The Disk Harrow.—The Rolling Coulter. 285
POSTAL CARD CORRESPONDENCE. 286

New yearly subscribers to the P. F. will receive the remaining numbers of 1903 free. In making up those "Blocks of Six," our friends can give this additional inducement to their friends. In these Blocks of Six we cut the subscription price of the P. F. in two, and then throw in an extra two months for good measure. Now this is the only way in which our paper can be obtained at less than the regular price of $1 per year. In single subscriptions one dollar pays for one year, 50 cents pays for six months and 25 cents pays for three months. There will be no deviation from this rule except in the Blocks of Six. Our friends know that we give the choice of any one of a number of valuable premiums for a Block of Six. Included in these premiums is a year's subscription to the P. F., so that any friend whose subscription expires January 1st, or before, can by making up a Block of Six, and sending us $3 for the same, have his or her own subscription renewed for a year absolutely free. Now is the time to make up these Blocks. The long evenings and leisure time for reading are here, and farmers and their folks are making up their list of reading matter for the new year. Fourteen months of the best agricultural paper for only 50 cents ought to put the P. F. into every farm home where it is not already established as a weekly visitor. The farmer who reads it and follows its teachings during 1904 is going to do better than he ever did before. Stick a pin right there. If you have not already **sent us a Block of Six do so now. If you have, send another.**

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

October 24, 1903.

Wheat was lower and the market weak, owing to lower Western advices, and the continued apathy of foreign exporters. Corn was in light demand for local consumption, as well as for export, and the market was weak under increased pressure to sell. The market ruled steady for oats under moderate offerings, but trade was quiet. Flour was firmly held but quiet. Supplies of live poultry were liberal and the market was weak and unsettled under a light demand and general pressure to sell. The demand for dressed poultry was equal to the limited receipts of fancy fat fowls and fine heavy Illinois chickens, prices of which ruled steady, but the market was oversupplied with medium and low grades, which were dull and weak under general pressure to sell. In spite of the strength of outside advices on butter, this market was dull because of the excessive supply of prints and the continued free use of refrigerator goods, which checked the demand for fresh-made butter. Holders found it difficult to exceed 21½c. for extra creamery, though some of the fancy marks could not be bought at that figure, while the under grades, which composed a considerable proportion of the supply, had to be sharply shaded in price in order to effect sales. Imitation creameries and ladle-packed were dull and barely steady, with ample offerings. Prints were weak on a basis of 22c. for extras, and some dealers were cleaning up surplus stocks at concessions. There was a quick outlet for the limited receipts of fine new-laid eggs, prices of which ruled firm, with exceptional sales above quotations. Most of the supply consisted of mixed held and fresh stock and holders were obliged to meet the views of buyers in order to move out invoices of this character. Choice refrigerator stock ruled steady, with a fair demand. Supplies of cheese were liberal and buyers were indifferent. Country advices were weak and this market was barely steady. Supplies of apples were liberal and the general market was quiet, though strictly fine fruit sold fairly at steady prices. Receipts were largely of medium grades, which had to be sold at relatively low rates. Cranberries and quinces, as well as pears and grapes, were in moderate supply and firm, with a good demand. There was a fair demand for white potatoes and the market ruled steady, with moderate offerings. Sweets were firmer under light receipts and a good demand. Onions plentiful and quiet at former prices.

WHEAT.—			
No. 2, red, spot and Oct.	82¾	@	83
No. 2, Penna. and Del.	83¾	@	84
No. 3, red	77¾	@	78
CORN.—			
No. 2, spot and Oct.	49½	@	49¾
No. 2, yellow	54	@	54½
No. 3	47½	@	47¾
OATS.—			
No. 2, white natural, new	42	@	42½
No. 2, white clipped	43	@	43½
LIVE POULTRY.—			
Fowls, hens, per lb.	10	@	11
Roosters, per lb.	8		
Spring chickens, per lb.	10	@	10½
Ducks, per lb.	12	@	12½
Turkeys, per lb.	11	@	12
DRESSED POULTRY.—			
FRESH KILLED.			
Fowls, choice, per lb.	13½		
Fowls, average, per lb.	12½	@	13
Old roosters, per lb.	9		
Chickens, nearby, per lb.	14	@	15
Illinois, d. p., heavy, lb.	14		
Western, d. p., fancy, lb.	13		
Western, scalded, f'cy, lb.	11	@	11½
BUTTER.—			
West. cream'y 1sts to extra	19½	@	21½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	20	@	22
Prints, Western	19	@	22
Imitation creamery	16	@	18
EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
Nearby 1sts, ret'bl crates, L	25		
Western 1sts, free cases, L	24	@	24½
No. West., 1sts, free cases, L	24½	@	25
So. West., 1sts, free cases, L	23	@	23½
So. choice, free cases, L	21	@	22
Refrigerator, firsts, M	20½	@	21
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	12		
Fair to good	11	@	11¾
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	12	@	13
Domestic Swiss, No. 2	10	@	11
GREEN FRUITS.—			
Quinces, No. 1, per bbl.	4.00	@	4.50
Quinces, No. 2, per bbl.	3.00	@	3.50
Grapes—			
N. Y. Concord, 4-lb. bas.	12½	@	13½
N. Y. Concord, per 100 lbs.	2.25		
N. Y. Catawba, 4-lb. bas.	12½	@	15
Niagara, 4-lb. bas.	17	@	19
California Tokay, per lb.	6	@	8
Cranberries—			
Cape Cod, large late, bbl.	8.00	@	8.50
Cape Cod, early Bl., bbl.	6.75	@	7.50
Cape Cod, early Bl., crate	2.25	@	2.50
APPLES AND PEARS.—			
Apples—			
N. Y. fancy red, bbl.	3.00	@	3.50
Kings, per bbl.	2.50	@	3.00
Pippins, per bbl.	2.00	@	2.50
Greenings, per bbl.	1.75	@	2.25
Baldwins, per bbl.	1.75	@	2.25
Maiden Blush, per bbl.	2.50	@	3.00
20-ounce Pippin, per bbl.	2.25	@	2.50
Pears—			
N. Y. Kiefer, per bbl.	2.50	@	3.00
N. Y. Seckel, per bbl.	5.00	@	8.00
N. Y. Bartlett, per bbl.	4.00	@	5.50
Duchess, per bbl.	2.75	@	3.50
Sheldon, per bbl.	3.50	@	4.50
Louise Bonne, per bbl.	3.50	@	4.00
Howell, per bbl.	3.50	@	4.00
Other varieties, per bbl.	2.00	@	3.00
POTATOES.—			
White, Pa., choice, per bu.	58	@	60
White, N. Y., choice, per bu.	55	@	58
Fair to good	50	@	53
Sweets, Jersey, prime, bas.	40	@	50
Sweets, seconds, per bas.	15	@	25
VEGETABLES.—			
Onions, per bu.	50	@	55
Cabbage, N. Y., per ton	8.00	@	12.00
Cauliflower, L. I., per bbl.	1.75		
Cucumbers, Fla., per bu.	1.50	@	2.50
Eggplant, Fla., ½-bbl crate	2.00	@	2.25
BEANS AND PEAS.—			
Beans, mar., H.P., 1902, bu.	2.75	@	2.90
do mediums, H.P., 1902	2.25		
Pea beans, H. P., 1902, bu.	2.10	@	2.30
Imported pea beans, per bu.	2.00	@	2.10
COTTON.—			
Cotton, per cwt.	10.00		
FEED.—			
Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00
HAY AND STRAW.—			
Timothy, No. 1, large	15.50	@	16.00
Timothy, No. 1, small	14.00	@	14.50
Timothy, mixed	12.50	@	14.00
Clover, No. 1	12.00	@	12.50
Straw, straight rye	17.50	@	20.00
Oat	8.50	@	10.00
Wheat	8.50	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady for best steers.			
Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4	@	4½
Common steers	3½	@	3¾
Veal calves active for good grades.			
Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4½
Hogs lower.			
Fat hogs, Pa., Del. & Md.	6½	@	8½
Fat hogs, Western	8¼	@	8½
Sheep and lambs easier.			
Sheep, extra	4¼	@	4½
Sheep, good	3¾	@	4
Sheep, medium	2¾	@	3¼
Sheep, common	1¾	@	2½
Lambs	4	@	6

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NEW YORK MARKET REVIEW.

October 24, 1903.

Spot wheat, with a decline of ½c. in options, closed strong with a continued good demand for No. 2 red winter for Portugal and No. 1 northern for South Africa. There is very little of No. 2 red winter to be had here and holders are asking extremely high prices, which prevents business. Futures are heavy. This was particularly true of December contracts, especially in the West, Chicago taking the lead in the downward movement. As a natural result there was a marked lessening of the price difference between December and May not only in Chicago but in all markets. The market for spot corn was strong. There was a good demand from exporters from the Continent, but the advance in options, coupled with the small supplies and limited offerings checked business. In futures there was no life in the local corn market and price fluctuations were unimportant, although the feeling was slightly stronger in sympathy with the West where shorts were nervous and anxious to cover, owing mainly to reports of unsatisfactory husking returns from the Southwest. With receipts of only 28,800 bu. of oats the spot market ruled strong, with a good local demand at unchanged prices. The sales were 70,000 of white clipped on private terms c i f, 35,000 bu. of natural white on private terms on track and delivered and 35,000 bu. of white clipped at 42½c. to arrive. The market for hay and straw was barely steady, owing to the increased movement, with the demand only fair. Straw was firm. There was excellent demand for fancy fresh creamery butter and with light offerings sellers gained such a strong foothold at the opening that the price of extra creamery was easily advanced to 21¾c. While there were no changes in other grades of creamery the tone was much firmer than earlier in the week. Store trade was on basis of the last sale and at the close supplies were closely cleaned up. Eastern dairy was very quiet and only fancy grades had inquiry. Western imitation creamery was steady. Western factory firsts declined to 15c. and packing stock seconds dropped to 14½c. Thirds were unchanged. Renovated butter is still very dull and no improvement is looked for until fresh creamery advances materially over present prices. The market for cheese is dull. It will be noted that low prices are ruling in interior markets and this naturally reflects an easier tone locally. Small sizes of full cream are in heavy supply and from invoices at hand liberal quantities are billed for this market. The demand lacks force and is entirely of a peddling character. Large sizes show more strength than small sizes, as they are in light offering. Skims are dull but sellers show no inclination to do much shading.

WHEAT.—			
No. 2, red	85	@	85½
No. 1, No. Duluth, f. o. b.	91¾		
CORN.—			
No. 2, yellow	54½		
No. 2, white	52		
OATS.—			
No. 2	42		
Standard white	43		
Track white	41	@	45
HAY AND STRAW.—			
Timothy, pr. l'rg bales, cwt.	92½	@	95
Timothy, No. 1	87½	@	90
Timothy, No. 2	82½	@	85
Clover	60	@	65
Straw, long rye, per cwt.	1.00	@	1.25
HOPS.—			
New York State, 1903, lb.	25	@	32
New York State, 1902, lb.	10	@	26
Pacific Coast, 1903, per lb.	22	@	29
Pacific Coast, 1902, per lb.	10	@	26
German, 1903, per lb.	55	@	65
German, 1902, per lb.	42	@	45
BUTTER.—			
Extra creamery	21¾		
Extra factory	15		
State dairy	15	@	20
Packing stock	12½	@	14½
Renovated	15	@	20
Imitation	15	@	18
CHEESE.—			
State, f. c., small, fancy	11½		
Good to prime	10½	@	11
Large colored, fancy	11¼		
Light skims	7¾	@	9¼
Full skims	1½	@	2
EGGS.—			
QUOTATIONS AT MARK.			
Nearby fancy, selected	28	@	30
State & Pa., fancy	26		
State & Pa., seconds	22	@	24
Western extras	25		
Refrigerator	18	@	21
LIVE POULTRY.—			
Spring chickens, nearby, lb.	10		
Fowls, per lb.	11		
Roosters, per lb.	6		
Turkeys, per lb.	11		
Ducks, West., per pair	60	@	75
Ducks, Southern, per pair	40	@	60
Geese, West., per pair	1.25	@	1.37
Geese, Southern, per pair	1.00	@	1.12
DRESSED POULTRY.—			
Turkeys, spring, d. p., lb.	13	@	17
Scalded, per lb.	12	@	15
Old, mixed, per lb.	15	@	16
Broilers—			
Phila., fancy, large, lb.	20	@	22
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	12		
West., d. p., av. best, lb.	13		
Scalded, per lb.	11	@	11½
Chickens, Phila. fancy, lb.	18	@	19
State and Pa., fancy, lb.	14		
State and Pa., poor, lb.	8	@	10
Spring ducks, L. I., per lb.	18		
Eastern, per lb.	18		
Jersey and Pa., per lb.	16	@	17
Spring geese, Eastern, lb.	17	@	18
Squabs—			
Prime, large white, doz.	3.25	@	3.50
Mixed, per doz.	2.50	@	2.75
Dark, per doz.	1.75	@	2.00
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl.	2.00	@	2.75
Spitzenberg, per bbl.	2.00	@	3.25
Crab, per bbl.	2.00	@	5.00
Greening, per bbl.	1.50	@	2.50
Fall Pippin, per bbl.	1.50	@	2.50
Maiden Blush, per bbl.	1.50	@	2.25
York Imperial, per bbl.	2.00	@	3.00
Hubbardston, per bbl.	1.50	@	2.25
Ordinary, all kinds, bbl.	50	@	1.25
York Pippin, per bbl.	1.50	@	2.50
Pears—			
Common, per bbl.	1.50	@	2.50
Bartlett, State, per bbl.	3.00	@	6.50
Buerre d'Anjou, per bbl.	2.00	@	3.00
Louise Bonne, per bbl.	1.50	@	3.00
Sheldon, per bbl.	2.00	@	4.00
Seckel, per bbl.	4.00	@	8.00
Duchess, per bbl.	2.50	@	4.00
Kiefer, per bbl.	1.50	@	2.75
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, 4-lb. bas.	12	@	20
N. Y. Concord, 4-lb. bas.	14	@	15
N. Y. Catawba, 4-lb. bas.	14	@	15
N. Y. Salem, per 4-lb. bas.	13		
Up-river, carrier, Concord	65	@	85
Wine grapes, black, ton	50.00	@	54.00
Peaches, West N. Y., carrier	2.00	@	3.00
Quinces, per bbl.	2.00	@	5.00
Cranberries—			
Cape Cod, bbl.	7.50	@	8.50
Cape Cod, crate	2.25	@	2.35
New Jersey, bbl.	6.25	@	6.75
New Jersey, crate	2.00	@	2.25
VEGETABLES.—			
Brussels sprouts, per qt.	5	@	10
Beets, 100 bunches	1.25	@	1.50
Carrots, per bbl.	75	@	1.00
Cabbage, White Danish, ton	12.00	@	14.00
Domestic, per ton	9.00	@	12.00
Tomatoes—			
Jersey, per crate	40	@	1.00
Delaware, per ½-bu. bas.	25	@	35
String Beans—			
Va. & N. C., wax, basket	1.00	@	1.75
Va. & N. C., green, basket	75	@	1.50
L. I. and Jersey, bag	75	@	1.50
Squash, Hubbard, per bbl.	1.00		
Cucumbers—			
Shelter Island, per bbl.	2.00	@	4.00
Cucumber pickles, per 1,000	2.00	@	4.00
Cauliflower	50	@	1.75
Celery, fancy, per doz.	10	@	40
Eggplants, nearby, per bbl.	2.00	@	4.00
Green corn, per 100	50	@	1.50
Lettuce, Boston, per doz.	20	@	40
State and West., per doz.	10	@	25
Lima beans, potato, per bag	1.00	@	2.00
Flat, per bag	1.00	@	1.25
Peppers, nearby, per bbl.	75	@	1.50
BEANS AND PEAS.—			
Beans—			
Marrow, 1902, choice, bu.	2.85	@	2.90
Common to good	2.50	@	2.80
Medium, 1902, choice, bu.	2.20		
Medium, 1903, choice, bu.	2.27	@	2.30
Pea, 1903, choice, per bu.	2.22	@	2.25
Med. & Pea, com. to good	2.00	@	2.20
Black T. S., choice, bu.	2.65	@	2.70
Lima, California	2.35	@	2.40
Improved giants	1.60	@	1.90
Italian, medium	2.05	@	2.15
Green Peas—			
Scotch, 1903, bags, per bu.	1.35		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

A Kentucky sister writes: "Seeing that you have the home life of the farmers as one of your subjects of interest, I would like to ask your assistance along the line of household help on the farm. Please give us some papers along that line. Farmers' wives along this side of the Ohio are so needy of good hired girls. * * * Can you tell me how to obtain a foreign girl? I will be grateful for any assistance along this line."

This letter is but the echo of a question that thousands of housekeepers everywhere are asking, and to which there really seems no satisfactory reply. For the present we know of no such help, but are willing to act as "agent" between women who want girls and girls who are willing to help. Parties responding will please enclose stamped and self addressed envelope.

Of late we have heard of a few things that make the outlook a little more cheerful. At the colored conference of the M. E. Church in Iowa, we believe, a plan was set on foot looking to the training of colored girls for domestic service and the establishment of agencies whereby mistress and maid may be brought together. The more one contemplates this scheme the greater the possibilities appear. And we would not be surprised if here lies the solution of the servant girl problem. Of course the training schools must come first. No tired, busy housewife has time, strength or patience to take the raw material and make it up. We want skilled labor in our homes, and the majority are willing to pay for it; it is the unskilled labor that we object to. This whole matter should be put on a business basis. Girls should have to pass an examination the same as a teacher or nurse, and then receive pay accordingly. When this time comes, the social trouble will be done away with. If I fit myself for a certain position, take a creditable examination, hire out for a fair salary and go to my position in cap and apron, I am going to feel pride in my work; am going to dignify my labor. I should prefer to serve at table instead of sitting at table; I shall have my own life to live and shall not worry because I am not invited into the parlor.

There are false notions on all sides of this question, but perhaps the one complaint heard most often is the one about eating with the family. We do not know how others feel, but for ourself, doing our own work, we would prefer to "wait," serving the family first. Of course this is not allowed in the home, but the majority of housewives know that when warm and tired and cumbered with the serving, they are in no condition physically or mentally to eat. We do not recommend, however, that "mother" accustom the family to this order of things—families are too easily spoiled—but where there are two or more daughters, taking turns at this will afford excellent practice and make the household machinery run smoothly.

But this is a digression. Some Milwaukee ladies are trying the experiment of having house maid parties; that is, they give the maid the use of the house in which to entertain their friends for an evening. The rooms are decorated and refreshments served the same as if the mistress were entertaining. It is certainly a wise sort of "missionary" effort. Again we mention our willingness to assist in bringing together readers of the H. C. who can be of mutual help to each other along this line.

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Frank Strong's Victory.

WILLIS R. KNOX.

In a rich picturesque valley in Pennsylvania, lived Frank Strong, eighteen years of age. His father was the owner of several farms, and Frank was an only son. Being of rather delicate constitution, his parents early decided that the farm was not the proper place for him, when he should attain manhood. He attended the district school in his early years where he made remarkable progress. Afterward, he was sent to the M—— Normal School. Here he soon discovered the extent of his ignorance, for the praise of teachers and friends had made him somewhat vain. A few days after his entrance he wrote his parents as follows:

"M—— Normal School, April 4, 1890.

Dear Father and Mother: I arrived here on Monday, but I am greatly discouraged. Even though I entered an advanced class, I, who was always a leader, am now a follower. It pains me to realize it, but I expect to push to the front soon. Look for a longer letter next week. Your loving son,

Frank."

Though Frank made progress he did not press to the front as rapidly as he expected, but he did succeed in getting the appointment of teacher to the Birch Spring Academy for the ensuing term. His work was very satisfactory to school officers and patrons, but he refused all offers to return the next term. Teaching was not to his liking, though he had felt it his duty to do his best no matter how disagreeable the task. Returning home at the end of the term, he exclaimed to his mother: "I'll never teach again!"

"Of course," said his mother, "you will teach, at least until you can get at something better. It is an excellent training for a young man."

Frank being an obedient son, had followed the advice of his mother, by not drinking, swearing, chewing or going in bad company, but, unfortunately for him, he had arrived at the threshold of manhood without a will of his own, his mother always shaping his decisions for him. Strange to say, he had never settled upon an aim in life, and his parents had not thought particularly of the matter. They would say, "Teach until you can get at something better." So the matter was settled by his teaching several terms and attending college during the summer. But at last the trouble began. His vacations were spent on the home farm, and it was during these vacations that he began taking great interest in farm operations. One day he and his mother were sitting on the piazza of the stately farm house reading the papers that had just come by the last mail. Mrs. Strong was scanning the local news, while Frank was deeply interested in his favorite agricultural journal. Suddenly he looked up and said: "I shall be a farmer. I am now past twenty-one, and if I ever intend to make a mark in the world it is time for me to decide now."

With a look of disgust his mother turned her glance full upon him and began:

"I really don't know what to think of you. There is no good in you! You'll never amount to anything. It is my belief that these farm papers, mostly filled with untruths, are turning your head. Think of it! Be a farmer! Work from early morning till late at night, and get little pay in return. Be exposed to the hot summer suns and the cold blasts of winter; to live in obscurity; to be the laughing stock of everyone when you go to the city! To think of all your college education wasted, not to mention the expense. Besides, you have not the strength. Do you forget that you were always ailing at college? You can make more money, too, at something better; our farms barely pay expenses. Why not be a doctor, lawyer, or other professional? You surely are not in earnest. Now, banish that foolish whim from your mind forever, for it shall never receive my approval.'

Mrs. Strong's speech, angry at first, softened as she concluded. Frank had listened respectfully, and now began:

"Mother, ever since I can remember, I have tried to gratify your desires. Having full confidence in your judgment, I did as you directed at the expense of my own will. It is important that I should now decide upon my vocation. I have studied over occupations and propositions without number. In none of them can I find so many advantages as agriculture. I see no reason why you should object to this calling, since your life has been spent on the farm, and all your wealth has been obtained from the products of the soil. To live with nature, to enjoy the bright sunshine, to breathe the pure air, to partake of the first fruits of one's own toil, to enjoy the blessings of freedom, health and happiness are advantages to be found in no other occupation. Why does not farming pay? Because the best brains have gone to the city, leaving the old farms to be taken care of by the men who are too ignorant to do anything else. Brains are needed more on the farm than elsewhere, and as to living in obscurity, it is not necessary, and many farmers have filled important positions. My college education will not be wasted, either. Indeed it will be the very means by which I shall conquer obstacles, for where can learning be of more use than in the great study of nature. And you know my health is always good during my vacation. Possibly there may not be as much money made in farming as in other occupations, but shall I exchange health, happiness, freedom, honor—yea, life itself, for the sake of the paltry dollar? Medicine offers no inducements to me. To attend the sick and dying, to be exposed to all kinds of weather, not to have a moment one can call his own, and to be forever in danger of contracting some loathsome disease, are things repulsive to me. A lawyer then! To live in a stuffy, little office encased with books; to sit in crowded court rooms; to be forever wrangling to gain a living, are things I could not endure. My decision is made."

Nothing more was said on either side, but it was evident Mrs. Strong was greatly displeased. Her son, once obedient to her every wish, had unconsciously to her, developed a powerful will of his own. His father shared his mother's opinions, but nevertheless some ground was set apart for his experiments. Failures followed each other rapidly, and Frank's parents were elated, hoping he would now give up his foolish notion, but he did not. Each failure was made a stepping stone to success, and soon his crops were the best in the neighborhood, and his advice was eagerly sought. He was elected a member of the Agricultural Society. A great change had come over his parents, who now began to be interested. When Frank was selected to prepare a paper for the State Dairy Convention they were proud of their son. The paper was practical, full of good suggestion and information and much commended. A few days later Frank received a letter from Philadelphia. It said: "I listened to your paper a few days ago, and was much pleased with it. I have made inquiry about you, and believe you are the man I want to superintend my dairy farms. I have reason to believe that your work will be so satisfactory that I can allow you a partnership soon. It will be your duty to oversee the work and furnish reports to me. I desire a personal interview, and ask you to call at the address given on enclosed card. Yours truly,

John Wilham."

He read the letter at the postoffice, and just as he had finished it he looked up to see his father, descending a long hill that led to their home, driving a new horse, a powerful animal of unusually high mettle. As Frank watched the advancing team, suddenly he saw the horse kick and plunge forward. The vehicle struck an embankment, and Mr. Strong was violently thrown underneath the wheels and the frightened animals ran rapidly homeward. Frank hastened to the assistance of his father, who lay by the roadside unconscious. In a few minutes consciousness returned but Mr. Strong was unable to move. The runaway horses had by this time reached home, with only the shafts of the vehicle attached to them. Mrs. Strong, knowing something dreadful had happened, quickly dispatched a servant to find Mr. Strong. The servant had not gone far until he found Mr. Strong lying by the roadside with Frank bending over him. The farmer was carried home and a physician summoned at once, who, upon examination, found that Mr. Strong was seriously injured, his spine being affected, besides numerous cuts and bruises. It was a sad announcement, but each one felt thankful that he had escaped with his life. When Mr. Strong's wounds were dressed, Frank read Mr. Wilham's letter to his parents.

"My son, I am proud of you!" cried his mother; "for I never thought of the like."

"Shall you accept this offer?" queried his father.

"That depends," replied Frank, "upon you. If you desire me to go, I shall, though I dislike very much to leave the old home."

"But I cannot spare you," replied his father. "I have learned to appreciate your value. I shall be a cripple the remainder of my life, and upon you I must depend to look after my property, knowing you are competent. Write to Mr. Wilham saying why you cannot accept his offer. Your parents now see they were wrong in trying to persuade you to leave the farm to make something you were never intended for and for which you had no 'bent.' I admire your pluck, grit and determination."

Frank managed affairs well, and a large dairy business was built up, he having given this line of work special attention. Frank's career and victory prove that perseverance will win, and that education is just as necessary on the farm as elsewhere.

Lancaster Co., Pa.

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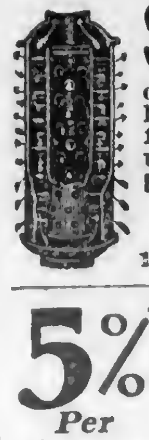

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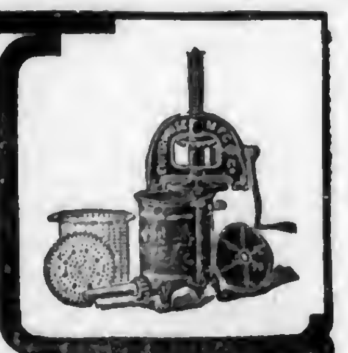

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Artificial Flowers of Tissue Paper.

LENA M. TULL.

Artificial flowers are one of the beautiful adornments of the home. We do not find them difficult to make, either. Tissue paper is cheap (only 1 cent per sheet or 6 for 5 cents), and can be gotten at the racket or drug stores. With this 5-cent investment you can get red, yellow, white, green, purple and pink, or any other colors desired, and have enough for a nice bouquet or wreath for the corner. So many varieties can be made, such as snowdrift poppy, dandelion, sweet peas, honeysuckle, snowball, roses, flags, chrysanthemums, paeonies and others.

The snowdrift poppy is made from white (as it is white), and is quite easily done. Cut a pattern 2½ inches in diameter, and by the pattern you can make all your flowers the same size. When cut out fringe the edges to the depth of one-half inch, and then they are ready for the stem. For this take a piece of wire (raveled screen wire is what I use), double one end down so as to make a loop, and on this put a piece of bee's wax. The wax prevents the pieces from slipping off. The wax may be covered with a piece of paper to hide it. Take six pieces that you have fringed, put one on the stem at a time and press together; then take another and do likewise, and so on until you have them on the stem. Then take a small piece of bee's wax and put just below the flower on the wire. This prevents the flower from slipping down. If desirable, wrap the stem with green. Now our poppy is completed.

Dandelions are made the same as snowdrift poppy, only smaller (1¼ inches in diameter), and are of deep yellow paper.

Sweet peas are quite pretty, but somewhat tedious. They can be made from most any colors. Cut a pattern three-quarters or one inch in diameter, and cut them all by this so that all will be the same size. Take a piece of wire 14 inches long, fix one end the same as you did for the poppy stem, then wrap the stem all with green. Take one round piece, put it on the stem just next to the bee's wax and give it a twist with forefinger and thumb on each side of the stem. Fix all likewise down the stem about one inch apart. They must all be the same color on one stem. A large bunch of these hung on the wall is pretty.

Vernon Co., Mo.

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In the Kitchen.

M. H. writes and gives some canning hints. The most important point is to have the jars and cans perfectly air-tight when canning fruit or vegetables, and much care must be taken to ascertain that the jars are in perfect condition before beginning the work. Sugar is not the keeping power in canning, as it is in preserves. We must rely on the entire exclusion of air from the can. Tin cans can be made air-tight by pressing the wax closely in the grooves and adding more wax until the crevice is full; but the tin cover should always be heated before pouring on the wax. Cans sealed in this way will keep the fruit as well without sugar as with it, and the fruit has a fresher taste when canned without sugar. As sugar is an expensive item in some households, it is worth while for the housekeeper of limited means to learn the art of canning without sugar. In canning, provide a wide-mouthed funnel, and pour the hot fruit into the funnel from a bright tin dipper. There is no need of anxiety about the keeping of canned fruit, if clean cans, new rubbers and perfect covers are used, but the glass jars should be well wrapped in paper and kept in a cool, dark place. These are now so cheap that they are preferable to stoneware or tin. For success in canning fruits and vegetables, one must begin with the jars, as absolute cleanliness is necessary to the preservation of the fruit. Cans that have been used to keep milk, spices or coffee in, cannot be sufficiently cleaned by mere washing, and the quickest and easiest way to clean and freshen them is to put them in a boiler with water to cover them; add enough Gold Dust to make a strong suds, and allow them to boil for twenty minutes. Remove the boiler from the stove, and when the jars are cooled rinse and drain them, and when ready to can fruit, the jars, rubbers and covers should be kept in hot water and removed as wanted.

* * * * * * * *

R. E. Merryman, Melrose, Fla., writes: To keep cheese from moulding, wrap it in a cloth wrung from vinegar, and then in thick paper. To make good vinegar put the hulls and culls, when preparing strawberries for canning, into a jar and cover with cold water. Let remain 24 or 36 hours, then mash well and squeeze the juice through a cloth. Add syrup or sugar to sweeten and put in glass fruit jars. Put a piece of vinegar mother in each can, tie a cloth over the top and set in the sun. This vinegar makes very quickly, is a nice color and of excellent quality.

To beat the whites of eggs quickly put in a pinch of salt and have the eggs as cold as possible. To cleanse bottles for catsup, etc., prepare a strong Gold Dust suds in the boiler and put in bottles after they have been well rinsed to remove loose dirt. Build a fire under the boiler and let the bottles boil an hour, then let them cool in the water. Remove and rinse well, then stand, top down, in a box or basket with a cloth in the bottom to drain and dry.

The best way to clean a greasy kettle is to warm it then throw in a handful of corn meal and rub well. The meal will absorb the grease. Pour the meal out then wash with Gold Dust suds. To boil collards, turnip greens, white beans, cow peas and dry English peas, parboil in water to which has been added a half teaspoonful of soda, then change the water and put in the meat or other seasoning. The soda takes out the "rank" taste and makes them cook "done" much quicker.

Use newspapers plentifully about the kitchen. Set the kettle or frying pan on a piece on the table. Use another for cutting the bread; lay them on the floor around the stove when frying anything that is liable to spatter; dress fowls on a thick paper, and, in short, use them in every way where they will help to save work. To fill cracks in stoves, make a paste of hard-wood ashes and salt, equal parts, mixed with water. Fill the cracks when the stove is cold and it will soon harden and last a long time.

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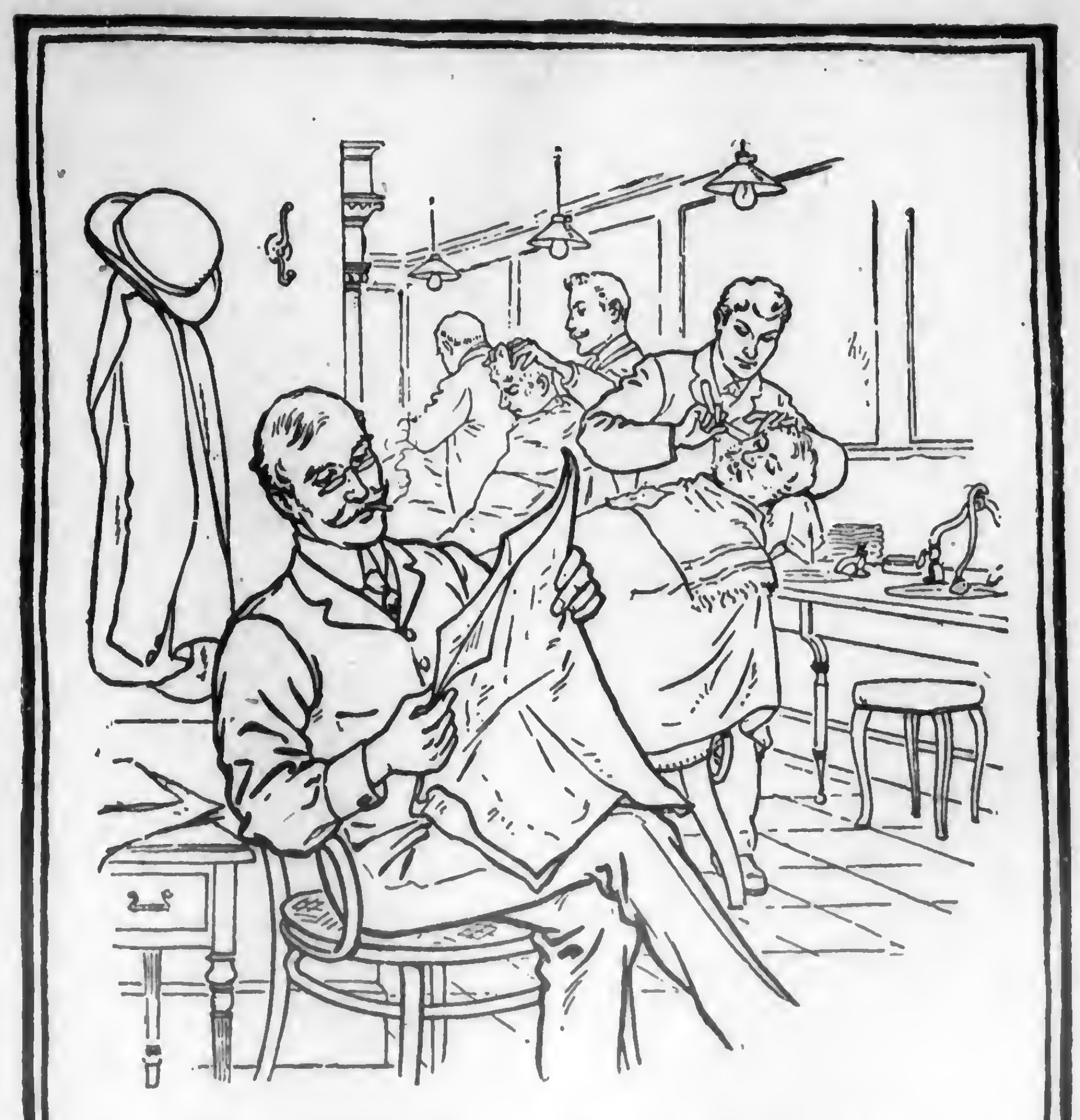
Correspondence.

On the subject of chickens Mrs. Annie B. Bushong, Sweetwater, Tenn., writes: To make a success of poultry raising the breeding stock must be strong, healthy and vigorous and fed plenty of good, sound food, as near nature's plan as possible (a variety, and exercise in getting it). Early broilers demand the best price and early pullets make the best winter layers. I always find that the best place for early sitters is a room where I can arrange warm but roomy nests in rows (boxes or kegs of suitable size, laid on side with only front end open), with sufficient dry soil in bottom to fill the corners well and leave a rounding nest, not too deep, to line with soft straw or hay. Put a couple of eggs in each nest. After night gently change the broody hens to the new nests. Close the fronts. Next night open the nests, place corn and water where they can help themselves next morning. When they return to their nests (urge them a little if they appear tardy) of their own sweet will, replace the trial eggs with the ones they are to hatch, eleven in number. Look in upon them often. Supply their wants. Wash all soiled eggs in warm water and expect a good hatch of strong chicks. Have their coops where the wind cannot strike them but where they will get all the sunshine. Never feed sour or sloppy food, and no more than they will eat heartily each feed. Supply clean water and grit. Some breeders recommend all food for chicks fed dry, and beef scraps as put up for market for animal food, and clover meal, scalded, for green. I have always had good success in using fresh meat ground or hashed fine for animal, and finely minced cabbage, turnips and grass clippings for green food. Some kind is necessary. Later in the season nature will furnish all these. O, yes, I caught the incubator and brooder fever several years ago. There is less labor in tending 200 eggs in a good incubator than six sitting hens, and it will hatch a better percentage of the fertile eggs. It is the only practical way of securing a quantity of early chicks. The care comes in brooding them. One thing I have proven, thirty chicks are better than fifty in any brooder. The brooders should be thoroughly warmed before the chicks are put into them; then run at 90 degrees the first few days, gradually reducing the heat. The chicks will crowd if not warm enough; pant if too warm, and spread out over the floor contented if just right. The same feed and care as for those with mother hens, except to enclose the brooders in yards to prevent the chicks from straying away before they are large enough to look out for themselves. Their runs and brooders should be moved onto fresh ground often. Teach them some call to which they will respond, to call them in when a rain comes up.

C. W. Kellogg, Bedford, Ohio, writes: The Scripture injunction is: "Let your conversation be yea and nay, for whatsoever is more than these cometh of evil." You are doubtless all aware that the Quakers practice this form of speech in all their dealings with society. Think you they are not honest? Certainly they are, and true to their belief that all Scripture has a definite meaning. I am aware there are different views held about the correct meaning of the different passages. This seems to be a matter of education. The Quaker, no doubt, teaches his children to observe his manner of speech; this is according to the laws of nature. Nature's laws are the same the world over. Our education comes next. If the parents of children use profane language in the hearing and presence of their boys especially, the boys naturally copy the speech of their father. To the credit and modesty of the girls, they naturally abstain from using profane language. It is terrible sometimes to hear the wicked oaths of evil minded men. I have many times been thankful that my education commenced in a Christian home. I would that all homes were like mine. Sometimes I think the world is growing worse, but some of the learned divines say "nay." There is certainly room for improvements. The wicked saloon and its occupants will some day have a terrible amount of sin to answer for. I pity the youth of our land. With regard to the sayings of Christ to His disciples, "Let your conversation be yea and nay," no more reasonable construction can be entertained than this: "Let your speech be always pure, thoughtful and sincere." We live in a different age; everyone must be his own interpreter about the true meaning of the Scripture. One thing is certain, a reckoning day is coming to all. If our lives are in accord with the teachings of our blessed Master all will be well. The promise is, "He that overcometh shall inherit all things, and I will be his God and he shall be My son. Blessed are they that do His commandments that they may have right to the tree of life, and may enter in through the gates into the city. And let him that is athirst come, and whosoever will let him take of the water of life freely."



For shaving Ivory Soap is preferred by many. Its lather is profuse. Hot water instantly softens the surface but does not melt the cake to waste in the cup. Ivory Soap is aseptic and odorless and rinses away entirely, leaving the face smooth and absolutely clean. It costs about one-fifth as much as most of the so-called shaving soaps.
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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 598, Nov. 14.—*In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?*

Topic No. 599, Nov. 21.—*How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?*

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 601, Dec. 5.—*Have You Tried an Ice House with Cold Storage Room? If so, Tell How You Built it*

Topic No. 602, Dec. 12.—*Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?*

Topic No. 603, Dec. 19.—*Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26.—*How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 605, Jan. 2.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 596.—Have You Found it Profitable to Make Capons of Young Cockerels? How do You Operate?

C. C. Beals, Russiaville, Ind.—I think that it is profitable to make capons out of the young cockerels where there is a market for them at a good price. We always get an experienced hand to do the caponizing, as it pays to give a little more and have a good job done, as "slips" will cut down on the profits. It is best to have it done when the cockerels weigh about two or two and a half pounds apiece. A small chicken will not do as well as a large one, as it stops their growth for several weeks. The fowls should be up twenty-four or more hours before being operated upon, to do the best. They should be kept in a pen a few days and fed soft feed afterwards. They will not need extra care, more than the rest of the fowls until fattening time. We do not keep ours up more than a week or ten days before fattening, as they seem to stop growing after this. Of course they are in good condition and have got their growth before being put up. Feed them mostly corn for fattening, and plenty of water to drink.

William C. Aiken, Los Angeles, Cal.—I have not found it profitable to make capons of my young cockerels, for the reason, mainly, that I have always had a market to take all surplus stock of poultry at the highest prices, and it has not paid me to go to the extra trouble of caponizing. Some years ago the business of growing young capons was reported by writers and others to be a very profitable one, and I was induced to experiment on my own account. I read everything obtainable on the subject, including a series of articles by T. Greiner giving the plainest and most complete instructions for the beginner, from which I learned many points for actual practice; also a very instructive bulletin from the Rhode Island Station, which contained much valuable information. My experiments have taught me that the profits in caponizing are much smaller than most writers on the subject represent, and I am satisfied that for me and my markets the same care and feed given young stock will bring larger profits than when expended on capons.

Mrs. E. F. Crist, R. F. D., Blasdell, N. Y.—We have not yet marketed our first capons, but think it surely pays to caponize the young cockerels. I have caponized 29 without the loss of one fowl, and never saw anyone operate. All you need is careful observation and good tools. The fowls are growing finely, are much larger than cockerels the same age, and are very tame. Although a dead fowl is usually taken for the first operation, I tried a live one. He is still living, a fine capon.

E. E. Lawrence, Spafford, N. Y.—We have found it much more profitable to sell cockerels young for broilers or roasters, than to make capons of them and feed them so long. We can get 20 to 25 cents a pound, dressed, for young cockerels and they are out of the way, leaving more room for the pullets to develop, whereas, if you caponize them you lose some (unless you are an expert), and have to feed a long time before marketing. Then, too, some markets do not handle them, or are not educated up to their value.

SUMMARY.

It seems to be a drawn game this time, since the contributors are about equally divided as to the expediency of caponizing fowls. As usual, when a matter of poultry comes up, the Editor has little to say, for there is nothing better known to the readers of the P. F. than the fact that the Editor knows nothing about poultry. It would seem, however, that considering the extra price which fat capons bring in the market that a skillful operator could make the operation pay very well. It seems to be mainly a question between selling broilers at an early age and keeping the fowls for a longer period for fattening, and an accurate account of the food used and labor expended in the fattening of capons over the selling of young broilers is the only way to determine the respective profits. None of our frends seem to have done this, and we had hoped that there would have been a more accurate discussion of the merits of the practice as compared with selling broilers. Perhaps some of our readers can yet give us the comparison.

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WITHOUT PAIN.

Don't wait until you are a helpless invalid, for a seemingly simple case of hemorrhoids, or piles, may, if neglected, reapidly lead to worse. The unnatural formations become tumerous and permanent, and the inflammation grows until abscesses form; the disease burrows into the tissues, forming tubular growths which discharge pus; cancerous conditions, and general gangrenous degeneration appear.

What is needed at the start, or at any stage, is something to soothe this inflammation, reduce the swelling and distension, and at the same time restore the diseased parts to normal condition. These three things are accomplished perfectly by the Pyramid Pile Cure. It checks all progress of the disease, and rapidly returns the affected parts to health, besides relieving at once the pain and fearful irritation.

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Pyramid Pile Cure is sold by druggists generally for fifty cents a package, and we urge all sufferers to write Pyramid Drug Co., Marshall, Mich., for their valuable little book describing the cause and cure of piles.

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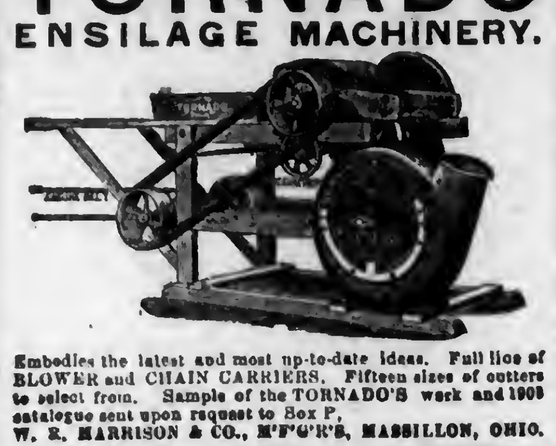

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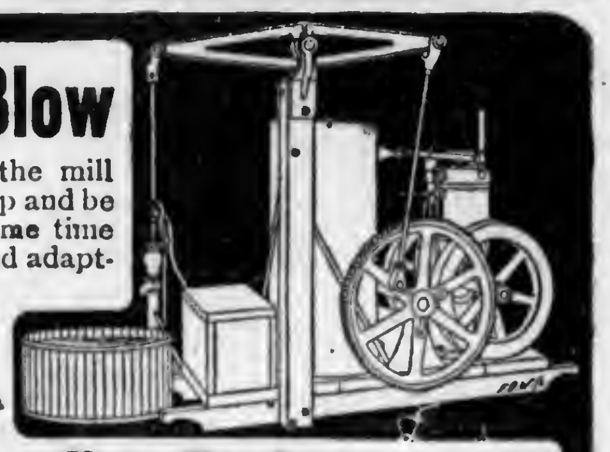

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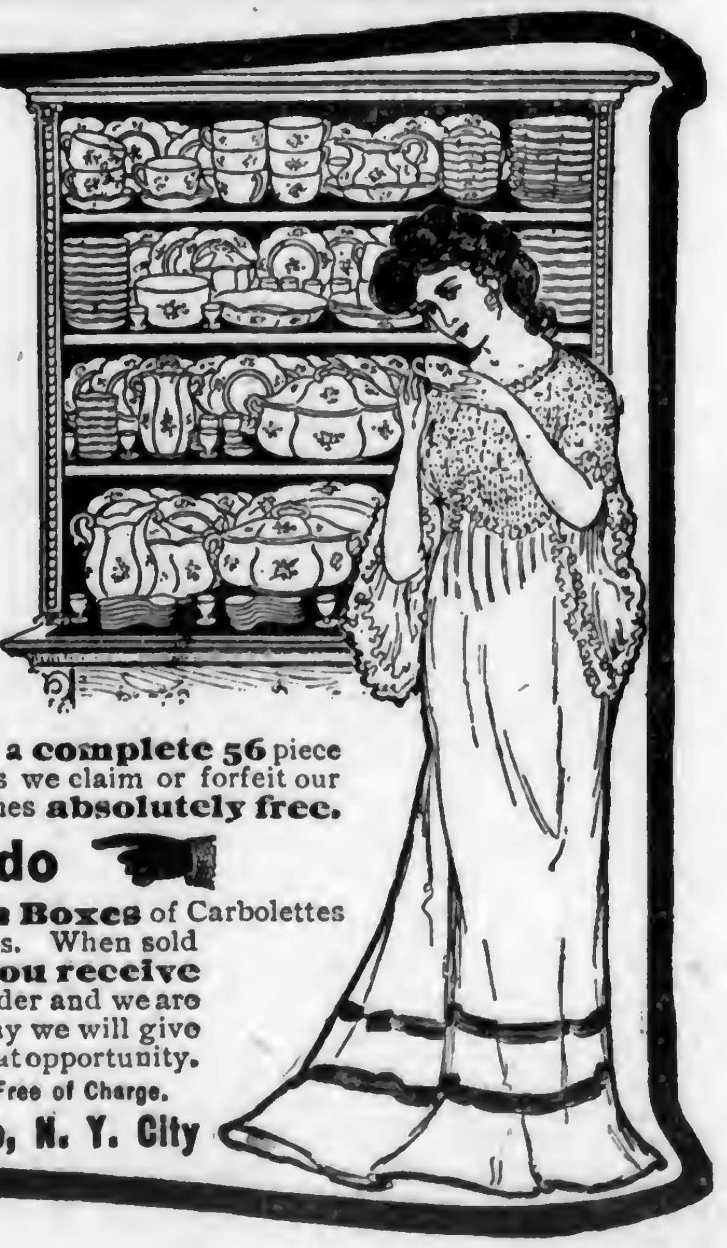

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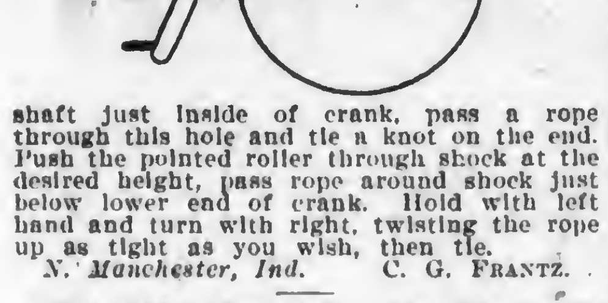
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Harrows.—For several years we have been much interested in the subject of harrows and have noted carefully the working of many different kinds, their adaptability to various kinds of work, etc., and are firmly convinced that to accomplish the most with the least expenditure of energy, it is necessary to have at hand several different kinds of harrows, and to be able to adapt them readily to the work required. The various kinds of harrows are now offered for sale at such reasonable prices that the cost of an implement particularly adapted to some specific kind of work may be saved in one or two seasons. We have observed apparently intelligent farmers plow under with great effort a large growth of ragweed, following the plow with a spring-tooth harrow, which pulled a large proportion of the weeds to the surface where they were afterwards gathered up and burned. In a case like the above a disk harrow would have been of the greatest service, and the saving in labor alone would soon have paid for one. In many instances it is necessary to work deeply; this can be done with the spring-tooth if the ground is free from trash, otherwise the disk is the best tool for such work. For fining the surface and making a good seed bed we find the Acme the best tool of its class, especially when supplemented by the plank clod crusher and roller. Some of the rolling pulverizers now on the market are well adapted to surface pulverization, but the prices on most of them are, we think, still a little high.

Hartstown, Pa. CAMPBELL & WEST.

Successful Shock Fodder Tie.—Take a piece of wood 2½ inches square and 42 inches long. Dress it down to a roller shape, bringing it to a point at one end. Bore an inch hole through the heavy end for a crank to be put in. Bore half-inch hole through shaft just inside of crank, pass a rope through this hole and tie a knot on the end. Push the pointed roller through shock at the desired height, pass rope around shock just below lower end of crank. Hold with left hand and turn with right, twisting the rope up as tight as you wish, then tie.

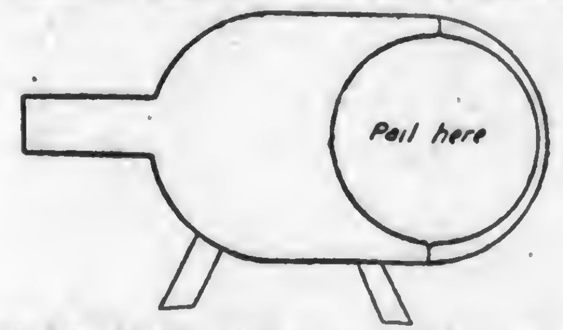


N. Manchester, Ind. C. G. FRANTZ.

The Meat Chopper.—Very few people fully realize the value of a meat chopper until they have one in the house. Three sizes of teeth come with the machine, and it may be used for chopping all kinds of meat, making bread and cracker crumbs, poultry dressing, sandwich filling, etc. We use the Universal Food Chopper No. 1, and have found it so great a convenience that we would not willingly be without it. F. HATHAWAY.

Abington, Mass.

Milking Stool.—A very convenient milking stool is shown in the sketch presented herewith. Instead of the milker holding the pail between his knees or setting it on the ground, this combined stool and holder supports the pail just where it is most convenient to milk into. The seat is made of hard-wood, with band or hoop of iron nailed on in front as shown in cut. This is to put the pail in while milking.



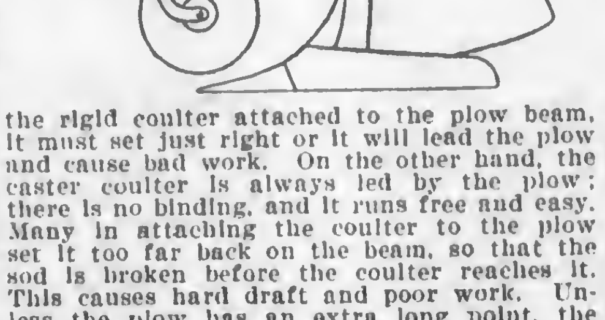
Presque Isle, Me. MRS. IDA NASON.

Fruit Evaporator.—Have a frame made of any light strips of lath or boards to fit your hotbed sash, having the frame to slope like the top of a hotbed. Fasten this frame to a floor or bottom made of light boards, the size of the frame. Tack wire netting around the end and sides of the frame, lay the sash on and the evaporator is complete. The wire netting excludes all insects, but permits a free circulation of air, while the sun shining through the glass dries the fruit rapidly. The fruit dried in this way is much better than that dried in the open air exposed to bees and flies and other insects. No dimensions need be given, as the frame can be made to suit any sash that may be convenient, while old screen doors and windows may be used for the wire netting.

Lander, Md. VIRGINIA SOUDER.

The Disk Harrow.—We are pretty thoroughly convinced that the disk harrow should find a place upon every farm of moderate size, as well as those of larger size. In preparing the seed bed for wheat the disk is almost a necessity. It will go deep into the plowed ground, cutting and crushing the clods and lifting them to the surface while sifting the fine dirt down upon the furrow bottom and firming it there to restore the capillary action of the soil and subsoil. The lumps brought to the surface by the disk are in a position to be worked upon by surface working tools. But it is almost impossible, under ordinary conditions, to make a perfect seed bed with surface tools alone. They may smooth the top of the ground off and make it look nice, but within it may be full of lumps. It has been said that tillage is manure, and whether we believe this or not, we know that a thorough mixing of the soil puts it in a condition to bring better crops than when left in a crude condition underneath. As a soil mixer the disk harrow is second to no other implement.—ED.

The Rolling Coulter.—The writer is a Buckeye boy, and when following the plow on our old Ohio farm he often wished for a rolling coulter to attach to his plow to cut through a fallen growth of clover or trash which would clog the standing coulter. We never thought of buying a rolling coulter outright, but rather had the idea that a small buzz-saw might be converted into a coulter. I now see that this would have been a failure. We were not greatly troubled with stones in our part of Ohio, and I have no doubt that a factory-made rolling coulter would have done us some good. I have used both the rigid and caster rolling coulters, and the latter is by all odds the best. With the rigid coulter attached to the plow beam, it must set just right or it will lead the plow and cause bad work. On the other hand, the caster coulter is always led by the plow; there is no binding, and it runs free and easy. Many in attaching the coulter to the plow set it too far back on the beam, so that the sod is broken before the coulter reaches it. This causes hard draft and poor work. Unless the plow has an extra long point, the centre of coulter should work almost directly over the point; perhaps a very little back. The cut herewith will show. Another common error is in getting the coulter set too far in. The cut should be far enough to land so that when the plow has passed, the land side of the furrow will present a perfectly smooth, clean appearance. This will usually require the coulter blade to set from half to three-quarters of an inch outside of the land-side of plow. For ordinary work the coulter should set 1½ or 2 inches above point of plow, as shown.—ED.



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Conveniently Located Cheap Land.—The man who accepts the statement so often made, that all the cheap good land convenient to transportation and to centres of civilization has been taken up, is making a great mistake, and a little investigation in the right direction will convince him of his error. In the upper peninsula of Michigan, for example, good farm land is to be had at $5 to $10 per acre, cash or on easy terms of payment. The mineral riches of that locality have so far obscured its agricultural possibilities that this land has been passed over by home seekers and is only now being sold for agricultural purposes. The region is well wooded with timber, which finds a ready market and in the cutting of which farmers find profitable winter employment. The claim is made that the trees on the average farm will pay for it, and that wherever the surface has been cleared timothy and blue grass grow luxuriantly. Then there are plenty of opportunities for a farmer to earn good wages when he has leisure from farm work, in the mines and lumber camps of the district, or in the cities of Marquette, Ishpeming, Munising, Escanaba, etc., where labor is always in demand. The mineral possibilities of this land, situated as it is in the richest iron and copper district of the world, also makes it a very attractive investment at the prices at which it is offered. The upper peninsula has a fine, temperate climate, and wheat, oats, rye, buckwheat, corn and fruit can be profitably grown there, also sugar beets which are unusually rich in saccharine content. The pasturage of the district is celebrated. The Upper Peninsular Land Company, Ltd., of Detroit, Michigan, which is handling the land, is prepared to give full information to all who are interested, and we advise readers who are looking for cheap, well located land to communicate with that firm and mention the P. F. when doing so.

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No. 50 Foster Street.
Worcester, Mass. June 11, 1903.

I have a Wilkes Pacing Gelding that became lame in the off forward foot. Soreness was just above the hoof, with a tendency to throw out a ringbone. I tried three veterinaries and the various advertised remedies which were on the market, but without effecting a cure. Also fired and blistered him once. My attention was called to your remedy by a friend who urged me to use it. After one month's trial, and the use of one and one-half bottles, we hitched the horse up and drove him and he has never taken a lame step since. Have now been driving him six months on the road, have speeded him on the track and macadam road and he is as sound as a bullet. It is certainly a wonderful remedy and I feel that I cannot say too much in its praise.
Wishing you every success, I am, Yours respectfully,
O.B. Wood.

J. H. DAY LEADING DRUGGIST
Dayton, Wash., Sept. 15, 1903.
Troy Chemical Co.
Troy, N.Y.
Gentlemen:-Herewith please find enclosed N.Y. Exchange for which please send me at once 1 bot. "Save-the-Horse"
"Save-the-Horse" is certainly accomplishing wonderful results in this case. The bog is all gone and the Thoroughpin is fast disappearing.
Very truly yours
J. H. Day

Ripon, Wis., July 29, 1903.
My horse had ringbone on right hind leg. Used blisters for nearly one year and had him fired, but to no effect other than to leave a bad scar. In April I purchased a bottle of your "Save-the-Horse" and by the time I used half of the bottle it had completely cured the lameness and is reducing the bone.
Yours respectfully,
T. B. Dakin

The fire iron is uncertain and invariably aggravates the disease or injury; blistering is less effective than the fire iron, and both necessitate the laying up of the horse from four weeks to several months. Mercurial and poisonous compounds produce irreparable injuries.
"Save-the-Horse" cures without scar, blemish or loss of hair; can be applied at any time, anywhere, any place and in all conditions and extremes of weather. Horses may be worked as usual with shin or ankle boots, as no harm can result from destruction of hair or scalding of limb.
Positively and Permanently Cures Bone and Bog Spavin, Thoroughpin, Ringbone (except low Ringbone), Curb, Splint, Capped Hock, Windpuff, Shoe Boil, Weak and Sprained Tendons and all Lameness.
$5.00 per Bottle. Written guarantee with every bottle given under our seal and signature, constructed solely to satisfy and protect you fully. Need of second bottle is almost improbable, except in rarest cases. Send for booklet and copy of guarantee.
TROY CHEMICAL CO., TROY, N. Y. Also Manufacturers of Veterinary Pixine.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Sussex Co., 3 miles west of Seaford, Del. Seaford is situated on the P. W. & B. R. R., the main line from Norfolk, Va., to New York. We have steamboat navigation to Baltimore; makes three trips a week; makes a good market for tomatoes, which averaged $8 per ton this season. We also have a canning factory at Seaford; they can from 8,000 to 10,000 baskets per day. Corn all cut; husking begun. Prices: Corn, new, 50c.; old, 70c.; wheat, 85c.; potatoes, 60c.; sweet potatoes, 40c. per bu.; eggs, 25c. per doz.; chickens, 14c.; butter, 25c.; pork, 9c.; beef, 7 to 8c. per lb.; good horses, $100 to $150; cows, from $35 to $50 each; hay, timothy, $20; clover, $15 per ton; land, $20 to $60 per acre. Large acreage of wheat being seeded. Several crates of strawberries were shipped in September; they sold from 25 to 30c. per quart at the station. Weather wet. Farms are changing hands because help is so scarce. Country is level. Health of country good. Nearly all driven wells. We appreciate the P. F.; we receive many useful suggestions from it. J. FRIEDEL.

Seaford, Del., Oct. 20, 1903.

Located in Edwards Co., Southern Illinois. September was dry; have had much rain so far in October. Corn about all cut up; fair crop, 30 to 75 bu. per acre; wheat 3 to 20 bu.; oats, 10 to 25 bu. per acre, poor quality; potatoes good; not much wheat sown this fall on account of chinch bug; lots of timothy sown. Lot of baled hay sold here this summer at $7 to $9 per ton; land, $20 to $60 per acre. Many worn-out farms, caused by the continual grain cropping. RUDOLPH BOLINE.

R 1, Bone Gap, Ill., Oct. 19, 1903.

Located 40 miles west of Nashville, on the N. C. St. L. R. R. Some good farming carried on; corn, oats and wheat the principal crops. Wheat yield 10 bu. per acre; oats, 20 to 40; corn, 25. Prices: Wheat, 87c.; corn, 50c.; oats, 50c. per bu. Potatoes planted under straw looking well. Success to P. F. VAN SPRINGER.

Dickson, Tenn., Oct. 19, 1903.

Located in Northwestern Ohio, on the L. E. & W. R. R. This is an agricultural and stock raising country. Good crops of hay, oats and potatoes; wheat and corn about 60 per cent. of a crop; apples a fair crop. Wheat sowing begins from Sept. 20th to Oct. 10th. Wheat, 75c.; corn, 50c.; oats, 35c. per bu.; hogs, 5½ to 6c. per lb.; hay, $7 to $9 per ton. Farm help scarce. Farmers progressive. Farms well improved and best farm implements used. PETER BIXEL, JR.

Bluffton, Ohio, Oct. 20, 1903.

Located in Sussex Co., Del., 5 miles west of Bridgeville, the largest fruit shipping depot in the State. Crimson clover looking good; tomatoes all off, largest crop for many years, with prices from 10 to 25c. per basket; corn crop is estimated to be a good one. Prices of farm produce: Wheat, 80c.; corn, 70c.; oats, 40c. per bu.; eggs, 25c. per doz.; chickens, 10c. per lb.; hogs, $8 per cwt.; horses, from $50 to $200 each; land from $10 to $100 per acre. Farm help scarce and high. V. W. REED.

Federalsburg, Md., Oct. 19, 1903.

Greenwood Co., Kan., is located in about the central part of western third of the State. It is considered one of the best counties of the State. In answer to the numerous inquiries I have received from my last correspondence I judge every section of the country is visited by the P. F., and all are not content. This is not a perfect country; many have sold and wandered in various directions, but many return, regretting having sold. Some have come here, lived one season and gone. Judging a country by one season is not a fair trial. Some rent a farm for from three to five years. Generally when share rent is taken it is one-third. The farms are generally rented from one-half to a year in advance, for the demand is great. At present there are quite a number of farmers here looking at the country; some sales. The land is generally very fertile. Some weeds by roadside are above the carriage top, such as sunflowers, wild hemp, etc. Alfalfa and English blue grass are being extensively grown. Some of the wealthiest people came here with scarcely anything. But there are plenty poor here, and always will be, as in every place. It is generally more in the man than the country. If people would follow the teachings of the P. F. and their Experiment Stations and try to be contented, they would do better than always wanting to go to some other place. V. W. GRIBLIN.

Virgil, Kan., Oct. 17, 1903.

Located in Belmont Co., O., near Jacobsburg and 10 miles from Bellaire, a manufacturing city of 10,000. Limestone land and very fertile; hilly but not rough. Principal crops are wheat, corn, hay and potatoes; wheat and hay crops good; corn and potatoes fair; fruit is very scarce. The timber has nearly been taken off the land and is very scarce. General farming, with tendency to stock and fruit raising. Many large farms with excellent farm buildings; country up-to-date; telephones, rural routes, etc. The weather was too dry this summer; pastures short. Wheat is just coming up. Farmers busy with their fall work. A good market for everything raised. Farmers bale both hay and straw. Eggs, 18c. per doz.; butter, 2?c. per lb. MRS. ELLA MCMASTER.

Jacobsburg, O., Oct. 20, 1903.

Northern part of Barren Co. Had a good rain the 5th of October, the first since the 6th of August. Have had no killing frost yet. Early corn tolerably good; late corn considerably injured by dry weather. Tobacco injured some, but tolerably fair crop. Wheat sowing has commenced; will not be a very large acreage sown. Apples are very scarce. Prices: New corn, 40c.; wheat, 85c.; Irish potatoes, 50c.; sweet potatoes, 40c. per bu.; horses and mules good price; cattle dull; hogs, $5.25 per cwt.; chickens, 8c.; butter, 15c. per lb.; eggs, 16c. per doz. T. J. DICKERSON.

R 1, Cave City, Ky., Oct. 19, 1903.

Located in South Central Kansas, 15 miles north of Wichita, the county seat. Crops very light and no cattle feeding being done. Shoats sell for from 5 to 7c.; young cattle, 2 to 3½c. per lb.; horses are good property and the best sell for from $150 to $200 each. No fat cattle here; no sheep kept on the ordinary farm. Hand separators are numerous, and butter fat sells for 20c. a pound in Wichita. Help scarce; wages, $20 per month. EVANS JONES.

Sedgwick, Kan., Oct. 17, 1903.

Located about 7 miles south of Winston-Salem, one of the finest tobacco growing sections in the country; the tobacco crop this year is fine. One of the best watermelon sections in the State. Ordinary crop of corn. Farmers are very busy gathering their corn and preparing to sow wheat. Potato crop is very good. The weather is dry and cool; frost the 13th of October. Prices range about as follows: Wheat, 95c.; corn, 75c.; oats, 60c.; peas, 70c.; Irish potatoes, 65c.; sweet potatoes, 50c. per bu.; butter, 16c. per lb.; eggs, 15c. per doz.; beans, $1.75 per bu. C. C. BOTTENHAMMER.

R 5, Winston-Salem, N. C., Oct. 19, 1903.

Situated in central part of Armstrong Co., Pa. Had to keep weather optic wide open, and get a hustle on to insure saving crops in best of order. We had a little drought in May and one in August. The first shortened first crop of clover; the latter affected the corn somewhat. With exception of the dry weather mentioned, the season has been wet, but very little extremely hot weather. Farm work well advanced. Peach, apple and potato crops fairly good; some rot in latter; oats big in straw, but a disappointment in bushels; wheat good; hay good; buckwheat short crop. Prices: Potatoes, 50c.; wheat, 70c.; oats, 47c. per bu.; hay, $12 to $15 per ton; cattle, 3 to 3¼c.; hogs, 5 to 6c.; chickens, young, 10c.; old, 9c.; butter, 20c. per lb.; eggs, 22c. per doz. M. P. LOWRY.

Mosgrove, Pa., Oct. 21, 1903.

Lincoln Co., 5 miles north of Lincolnton, the county seat. Beautiful weather; no frost yet. A slow, steady rain today after a drought of several weeks. Most farmers well up with their work; about ready to sow wheat. Corn and cotton good in this section. Wheat this year a failure. Prices good: Wheat, 95c.; old corn, 75c. per bu.; cotton, 9c.; pork, 9c.; butter, 15c.; young chickens, 10c. per lb.; eggs, 15c., per doz.; good horses and mules, $150; cows, from $20 to $40 each. Late fruit and vegetables scarce. The P. F. a welcome visitor in many homes here. MRS. LEE HOOVER.

R 2, Lincolnton, N. C., Oct. 17, 1903.

Six miles from Staunton, Va., the county seat of Augusta Co. Apple harvesting and cider making are at their heighth in this section, and the market quotations are highly satisfactory. A greater part of the seeding is over and the earliest is about an inch above the ground. A large crop of corn has been gathered and of fine quality. We have telephones and rural free delivery, both a great convenience. Prices: Wheat, 80c.; corn, 60c. per bu.; butter, 16c. per lb.; eggs, 22c. per doz.; flour, $4.75 per bbl. C. B. PELTER.

Laurel Hill, Va., Oct. 20, 1903.

We have had a good deal of dry weather this fall. Cotton opening nicely. Fodder most all saved. The sorghum crop beginning to be made up. Cotton is bringing a good price. Good crop of corn predicted. Farmers generally in good spirits and looking for good crops. Good pastures for time of year. Hogs are scarce and high. WATSON ROPER.

Gainesville, Ga., Oct. 17, 1903.

Land in woods for generations is now being settled at $4 to $6 per acre. This year has been more seasonable than for years, thereby a good corn crop, as also a good sugar cane crop. Cotton about half a crop, owing to worms. Land steadily increasing in value of late years; in fruit and trucking parts small tracts $30 to $100 per acre. General farming, $2 to $20 per acre, according to condition, improvements, location, etc. Two hundred to three hundred gallons of sugar cane syrup made on rich bottom, and I suppose about the finest and purest made in the world. Corn, 50c. per bu.; cotton, 9½c. per lb. Much pea vine hay made. D. BALFOUR.

Utica, Texas, Oct. 17, 1903.

Located in the old Virginia military district of Ohio, 75 miles east of Cincinnati, 100 miles south of Columbus, in the tier of counties adjacent to the Ohio River. Country broken and hilly, but fairly productive with good culture. Crops shorter than usual; corn will be about 60 per cent.; wheat, 75; oats, 75; potatoes, 80; tobacco, 75; apples, 10; peaches, 0, compared to a full crop. Very little alfalfa, cow peas or new crops grown. Stock scarce and high. We are having ideal weather for getting fall work done. Corn all cut and tobacco in barn. Long life and prosperity to P. F. and its host of readers. WM. C. GRAHAM.

L. B. 33, Cedar Mill, O., Oct. 20, 1903.

We have had dry weather for the past six weeks, except a shower the 12th. Had biting frost the night of the 17th. Farmers are through cutting tobacco and making molasses. The season of rest will soon be here, when I hope all P. F. readers will make some effort to extend the circulation of the best paper published, the P. F. Prices of produce are high, with three coal mines within 7 miles, that give a market for all produce the year around. Potatoes, 50c.; turnips, 40c.; beans, $3 per bu.; butter, 25c.; chickens, 9c. per lb.; eggs, 20c. per doz.; pork, 18c.; beef, 10 to 15c. per lb.; farm labor is scarce at wages from 50c. to $1.25 per day. J. S. BRACKEN.

Prentis, Ky., Oct. 19, 1903.

White frost this morning; don't think anything has been injured except very late cotton. Cotton is later opening this fall than usual. It has been three to four weeks late all season, consequently cannot be as good as it was last year; very little picking being done yet. Corn is a full crop on land not too wet. Too much rain since Aug. 1st; no drought to speak of this summer. Lumbering is the chief industry here now. Most all the farmers who have good teams follow logging and lumber hauling after they lay by their crops. They can make $2 to $4 per day per team; they can make better money than those who follow it for a business, as most of them have their own supplies. The demand for labor is good. Good chance for young men of energy to make money. Horace Greely's advice to young men of the East is still good: "Go West and grow up with the country." Prices: Corn, 50c. per bu.; cotton, 8½ to 9c. per lb.; hens, $2; eggs, 15c. per doz.; butter, 20c. per lb. H. C. BECHTEL.

Bates, Ark., Oct. 17, 1903.

Weather has been fine for fall work. The fore part of the season to June 10th was dry, but has been wet since. Wheat nearly all sowed; early sowing looks well. Farmers busy husking corn. Potatoes rotting badly. Crops about as follows: Corn 70; wheat, 90; oats, 40; potatoes, 100; hay, 90; tomatoes, 70; cabbage, 100. Prices: Corn, 50c.; wheat, 72c.; oats, 30c.; potatoes, 75c. per bu.; hay, $8 to $12 per ton; cattle, 3½c.; hogs, 6c.; sheep, 5c.; chickens, 11c. per lb.; horses, $100 to $200; fresh cows, $30 to $50 each; land, $30 to $100 per acre. A. S. THOMPSON.

Chambersburg, Pa., Oct. 21, 1903.

Located in Summit Co., in the northeastern part, 16 miles from the square in Cleveland, and about 9 miles from the corporation, therefore we have a fine market for everything we can raise on the farm. Eggs, 28c. per doz.; butter, 25c.; chickens, 10 to 10½c.; turkeys, 12c.; ducks, 12c.; geese, 10 to 11c. per lb.; wheat, 85c.; corn, 50c.; oats, 40c. per bu.; flour, $4.75 per bbl.; hay, timothy, $12.50 to $13; mixed, $11.50; straw, wheat, $7; oat, $6.50 per ton; potatoes, 55 to 60c. per bu. We are having fine weather now for doing fall work. The silos around here are about all filled and the other corn is pretty much all cut, and we have not had frost enough yet to kill potatoes or tomatoes, so you see the corn is all right. Wheat in this section is looking fine; some few are putting wheat on corn stubble now. MRS. MAGGIE RITCHIE.

R 2, Macedonia, O., Oct. 19, 1903.

Baby Costs Too Much

When the price paid is the mother's health and happiness. The father doesn't realize as he romps with the child what years of wifely suffering must be set against the baby's laughter.

Chronic invalidism is a high price to pay for the painful joy of maternity, yet it is at such a cost that many a woman becomes a mother. Such a price is too much because it is more than nature asks.

By the use of Doctor Pierce's Favorite Prescription maternity is made practically painless, and a quick convalescence is assured in almost every case.

"I am pleased to give my testimony and wish I could find words strong enough to induce other sufferers to use Dr. Pierce's Favorite Prescription," writes Mrs. Wesley Guy, of Kemptville, Ont., Box 6. "For eight years after my little boy was born I suffered with female weakness, also soreness in ovaries, especially on my right side, and pain in back. Was so miserable sometimes did not know what I was going to do. Tried several doctors but derived no benefit until I began using Dr. Pierce's Favorite Prescription. Had only used four bottles, also some of Dr. Pierce's Antiseptic and Healing Suppositories, when I felt like another person. I recommend Dr. Pierce's medicines to all my friends. If anyone wishes to write me I will gladly answer."

Dr. Pierce's Favorite Prescription contains no alcohol and is entirely free from opium, cocaine and all other narcotics.

The dealer who offers a substitute for "Favorite Prescription" does so to gain the little more profit paid on the sale of less meritorious medicines. His profit is your loss; therefore, accept no substitute.

Dr. Pierce's Pleasant Pellets regulate the bowels.

A Bushel in Less Than 3 MINUTES.

That's the way your feed will be ground when you use the KEYSTONE Triple Gear GRINDING MILL.

Built as strong as an anvil. Burrs are of hard white iron. Boxes and guy irons furnished with mill. Capacity of mill from 20 to 50 bushels per hour. We are making a special introductory price now. Write for the catalogue and prices on the full line. Corn shellers, planters, cultivators, feed cutters, etc.

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Best For The Bowels Cascarets CANDY CATHARTIC THEY WORK WHILE YOU SLEEP

Pleasant, Palatable, Potent, Taste Good, Do Good, Never Sicken, Weaken or Gripe, 10c, 25c, 50c. Never sold in bulk. The genuine tablet stamped C C C. Guaranteed to cure or your money back.

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Beware of worthless imitations.

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The Fearless Railway Horse Powers run easier and yield more power than any other. Suited to Cutting, Sawing, Pumping, Threshing—all farm uses. Also Threshers, Engines, Cutters, Saw Machines, Round Silos, etc. Catalogue free. HARDER MFG. CO., Cobleskill, N. Y.

Ear Corn Grinding and all grains for feed, 12 to 20 bushels per hour. Finer burrs turn out meal 8 to 15 bushels per hour. The all purpose mill at low cost is

FREEMAN'S Triple Geared Grinder

Smooth and fast running, no jerking motion. Full line of Shellers, Feed Cutters, Wood Saws, Windmills, etc. Ask for the Freeman Catalogue. 106

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THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

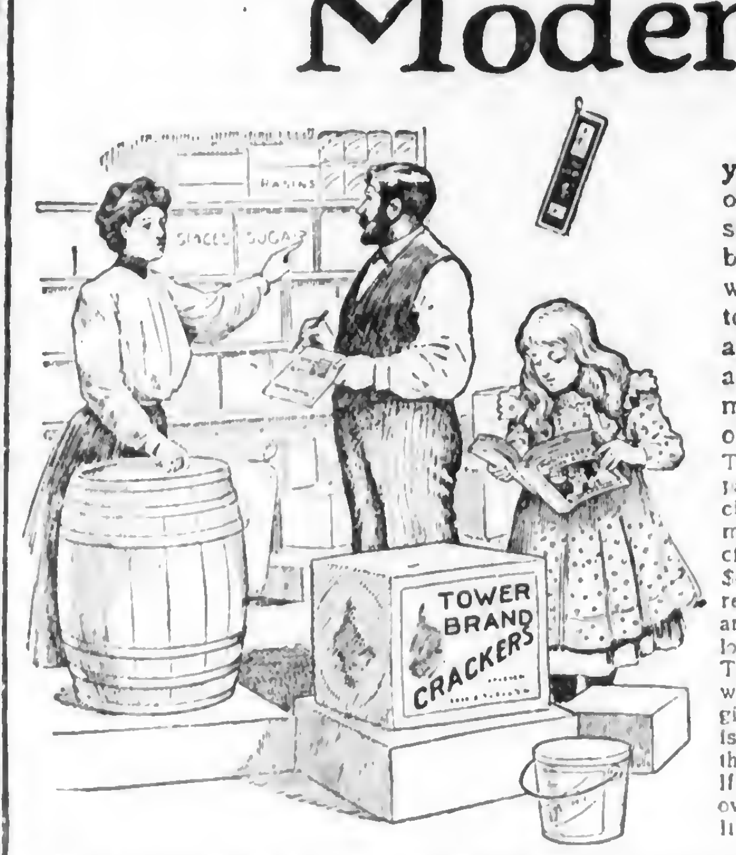
SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Construction of Manure Shed and Tool House Explained.

The following is from H. J. Hilliard, Black Hall, Conn.: "I have read 'Our Farming' with great pleasure and desire to build a tool house and covered yard similar to yours. But I cannot tell by the pictures about the construction. I would like to know how many posts are used to support the roof of the covered yard, how near together they are, size of rafters, etc. Also please tell what supports the upstairs floor of the tool house. You speak of being able to drive under the covered yard with a load of hay; can one drive in one entrance and out the other with any load so long and high?" To make my answer of value generally let me first state the tool house corners onto the main barn in such a way that there is a little yard back of the tool house and at one end of the barn. Understand, this yard is south of the tool house and east of the barn, so the buildings protect the yard from north and west winds. Over this yard, altogether about 35x70 feet, we have a tin roof, nearly flat. It is supported on one side by the tool house and on one end by being attached to the main barn. The support at the south or back side is an 8x10 beam and four 8x8-inch posts under this will be ample. One end of this, you see, is built into the main barn, so it is the same thing as though we had five posts. These posts should rest on stones and be held in place by inch iron dowels. The height of the rear posts is about 12 feet and of the north side of the roof about 14 feet. Now, we have two beams through from end to end, parallel with the south or outside beam, and between that and the tool house. They also are 8x10; 10 inch up and down. Each one is supported at one end by the main barn, by an 8x8 post at the other end and by a similar post in the middle. The beams may be spliced at this post; ours are. Three of the four spaces between the middle posts and the ends are trussed up by iron rods, as posts at these points would be in the way of driving through. The other space has a post in the centre, as it would not be in the way at all. After all these years of use I consider the three posts we have in the yard, or shed, as an advantage. They are handy often to hitch to and are so situated as to not be in the way of driving through, with us. However, one could run the beams the short way, 35 feet, and truss them all up and have no posts in the yard. The method of trussing is shown in the pictures. The rafters, or joists, that lay on these beams are 2x6. This is heavy enough with us, up to 12 feet in length. The strength that a large roof of this kind should have depends somewhat on the snowfall. Ours has proved amply strong for this locality, perhaps unnecessarily so; but the writer never takes any chances in such matters. In practice we have found that the snow almost invariably blows off, so there is no great accumulation. The rafters are two feet apart. If the manure was out of the yard there would be no trouble about driving in one entrance and out the other with a load of hay, provided the doors and roof were high enough. The length of the load would make no difference. The height would bother us. We have driven in the doors, so a load was under cover, and then later backed it out. As our barn floor will hold two loads of hay at once it is a very rare thing that we need to drive a load of hay into the manure shed entrance for temporary protection; so we did not arrange for driving through. We can, of course, drive through with wagons and tools and with any ordinary load, over the manure as well almost as when it is all out, as the manure is in something of a basin. The upstairs floor of tool house is supported by 2x10 joists running across from post to post, two to each pair of posts. That is, instead of mortising a 4x10 into the posts, we spiked a 2x10 on each side; a cheaper and stronger way of doing. They should be bridged in the middle. We will call these pairs of joists beams. From beam to beam we have 2x6 joists, 2 feet apart, to lay the floor boards on. The floor has proved amply strong for ordinary purposes. If any unusual weight was to be put in the central part, posts could be set under below and not be much in the way, or heavier beams could be put in. Those who are thinking about building a manure shed, or tool house, can get the result of the writer's study, all pictured out, in "Our Farming." It was written for just such friends. I have no money interest in its sale, only the desire to help you all. In all these years I have not said a word in favor of the manure shed that there is any occasion to take back. It has proved all that we gave it credit for in the enthusiasm that naturally came with its first use. It was a grand investment, both for money making and for looks and comfort. We are certainly better off today than though we had put the money out at interest, much better, instead of using it to build a shelter for manure, stock, etc. And I cannot see how we could improve on the tool and carriage house.

From City to Farm.—An interesting letter comes from a young man who is getting $35 a week in New York City. He is 29 years old, has a wife and two children, and $3,500 laid up, saved from his earnings. He and his wife love the quiet and independence of country life. Their present home is in the suburbs on one-quarter of an acre of land. They keep a horse and cow and some poultry. They have been successful with an incubator. The husband has taken the Cornell farmers' reading course and graduated with a percentage at the final examination of 98. He reads five agricultural papers and has the best books on the same subject. Now comes the point. He is afflicted with some trouble in one eye that puts about all the work onto the other one. His business demands a close use of his eyesight. It is feared that the other eye will weaken in time. Husband and wife are anxious to own and live on a farm and build up a model home, aside from the fact that it would be better for the husband's eyes. They do not care for more wealth than should come as the result of intelligent farming. Our friend suggests that he would like to buy a small farm, say 50 miles out, have it managed by someone on shares, let his family live there during the summer and go out himself over Sunday. During his vacation and on holidays he could work at improving it. He says he would not look for any returns under this management more than interest and taxes. In time he would expect to give up his confining city work entirely and make farming his business. I am asked to advise in the matter. Now, friends, this is a real sensible letter. It is all right, except that I fear a tenant will not bring him interest and taxes clear. But never mind; the plan is a good one. And this young man is going at it rightly. He is learning all he can by study. Good, but in practice it will not be quite so smooth sailing. I should advise the buying of land enough to make you a permanent, self-supporting farm home. The amount needed will vary according to the line of farming followed. Take time enough to get good land with the local conditions that you want. If your eyes seem to get no worse I would continue at your present work until the farm is paid for and you have money to stock it and start comfortably and a little cash capital left. Meanwhile do not worry if the farm does not improve much or bring in full interest on the investment. These things will come in due time. When the proper time comes go onto the farm to stay and put all your energy and business ability at work. You can probably save your eyesight and live an enjoyable and happy life. Unless the case is urgent I would not give up your present income until you are in shape to start fairly and out of debt on the farm. You can save perhaps half of your $35 a week now. You could not expect to go onto the farm, hampered by debt, and with little practical experience, and get ahead at first anything like as fast as this. With only a living to make on the farm, a man with your brains should be able to do this the first year, and to gradually make enough more to improve your place and build up a model home. Let this be a gradual growth. That is the way to get the most out of life. Success to you, my young friend.

Health Hints. —Don't Spend Your Capital.—Not long ago the writer had a friendly chat with an old physician. He is a thoroughly well-read, broad minded, honest, up-to-date man, with about half a century of experience as a doctor. Among other things, I asked him what message he could give me, for our many thousands of readers, that would do them the most good. Almost instantly he replied: "Tell them to give reasonable attention to the simple laws of health, and particularly to not spend their capital, and, barring accident, they should have almost no need of the services of us doctors. But it is of little use to tell them this. They won't listen, or at least won't do it. Strange, isn't it, that people will almost go wild over some new-fangled remedy, or some crazy fad, will fairly tumble over one another to pay out their money, but will not listen to the simple truth, which is worth vastly more. Now take the matter of spending one's capital. If one works hard, but every morning feels as well as ever, and ready to go at it again, well and good. He is only spending his individual income of vitality and strength. But if he or she works to the point of exhaustion, or beyond, and next morning feels below par, that person has used up some of his capital. If he continues drawing on it long enough he will surely pay for it in injured health. Simple, isn't it? But how few will pay any attention whatever to the warning." My good friends, young and old, this is as true as anything can be. What a pity that young people cannot be induced to profit by the experience of those who have almost passed through one lifetime. What benefit they might receive from better health through longer lives. During 33 years on the farm the writer has kept from spending capital fairly well, as far as farm work is concerned, except for a time at first. He learned, after a little, to do away as far as possible with all chores, and to not begin work until 7 in the morning, and to quit promptly at 6 P. M., as a rule. He believes just as much was accomplished, in the long run, and it was rarely necessary to overwork. But in the Institute work he was called to do, the matter could not be managed so easily. For example, in a certain State he was obliged to speak six days in a week at two, and part of the time three, sessions a day, and often travel nights and Sundays to meet engagements. He also had to do the same thing if he got home at all. And then he usually had only one man with him. Sometimes he failed to come. I recall carrying the entire morning and afternoon sessions practically alone, with a large audience, getting so exhausted that I could not eat when meal time came. This was Monday, and I had been obliged to travel the day before. And then complaint was sent to the superintendent because I refused to speak at night, but went to bed completely used up. This is the way I spent my health capital, partly, until there wasn't any more to draw on. Right here I want to say that some States have used men as though they were worth taking care of, and have realized that an overworked man could not be at his best long. The simple laws of health the doctor spoke of are being laid before you in these "Hints" from time to time. Anyone can see that pure out of door air is the best to breathe, and the nearer he or she can come to breathing such air day and night, the year around, the better. It is richly worth the little trouble and expense necessary to get it. How many do you know who do this? How many are there who will not allow their clothes to retard full, deep, natural breathing of this proper air to purify the blood? Do you all eat wholesome food that will cause the bowels to move freely every day, thus carrying off the waste of the system in another way, naturally and properly? Wash and be clean, and help the skin to do its natural work, and draw the blood into the minute capillaries, thus helping it to do its work of carrying off the waste of tissue. How many wash themselves at night whenever they may be dirty or sweaty as a result of their work during the day? How many take a cool bath every morning, followed by a good rubbing? Don't you know that plagues and pestilences have found their victims mostly among those who were filthy in their personal



Modern Merchandising

Have you ever stopped to think about the question of getting your household supplies to the best advantage? Are you perfectly satisfied with the way things are running—with the prices you pay, the quality of the goods, the range of selection and the general question of making both ends meet? Perhaps you buy your supplies from the cross-roads store, just because your grandfather did. Perhaps you are tied up to the general store because you can trade in your butter and eggs at a low price and take it out in trade at a high price. Possibly you have never thought about it one way or the other. It is time to think. You have got to live and support your family. Your income is limited to so many dollars per year, and you have got to figure out the expense account so that things will come out right at the end of the year. If you can make both ends meet nicely and lay aside a tidy sum for a rainy day, you are only doing what every head of a family should endeavor to do, and if you don't do it you are simply inviting misery for the next time the crop fails. If a dollar looks as big to you as we think it does, we want you to think over this question of modern merchandising and see just what it means. It means different things to different people. To some it means buying everything on credit, then mortgaging the farm when settlement day comes around. Others think cheap goods the pathway to economy—the cheap, worthless trash that is advertised so brazenly at "the lowest price on earth." Many people send off to the city and get a jack knife at a 25 cents saving, and then fall back into the old rut in buying the balance of their supplies. Our idea of modern merchandising is to supply all your wants—everything you eat, wear or use—for yourself, your family and the hired man, at an average saving of 15 to 40 per cent, which means that if your yearly purchases amount to $200, you can save something like $50; or $100 if it costs you $400 a year to live. Are you so well off that $100, or even $50 does not interest you? Then again, consider the advantages. Absolutely reliable merchandise of the very best quality, and an unlimited range of selection. New goods. Prompt service. Prices that spell economy, and the certain knowledge that absolute satisfaction is the keynote to every transaction. To make trading with us possible, we issue a catalogue of 1128 pages, in which almost everything imaginable, including Vehicles and Farm Implements, is illustrated, described and priced. This catalogue can be absolutely depended upon and enables you to select your entire bill of merchandise without hurry or confusion and with the certainty that everything will be found exactly as described or you need not keep it. We ask you to get out of your present rut and give our methods a trial. We satisfy others and will satisfy you. There never was a better time than right now to begin, for we have just issued a new catalogue full of the things you will need to see you through this winter, and you can make no better investment than to fill out this coupon and send it to us now while the subject is in your mind. We ask 15 cents, merely as an evidence of good faith on your part. If you will risk 15 cents, we will risk sending you a catalogue that costs us over half a dollar to print and is so big that it requires 26 cents postage. It is our 76 cents against your 15 cents. Will you do it? Write today.

Laying in Supplies: Living from hand to mouth is one way of living, but why not get your supplies on a wholesale basis and avoid the petty annoyances of retail buying, to say nothing of making four dollars go as far as five dollars used to. That's the grocery list you see hanging on the wall. Supplied with loops to hang up with. A postal will bring it. Nothing like groceries for a foundation for a 100-lb. freight shipment.

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habits, and who lived in homes that were not clean and often filled with God's sunlight? How many do you suppose there are in the P. F. family who do not eat what substantial and plain food they want, bread and butter, meat, vegetables, etc., and then when they have got all their systems need, stuff in a little more by coaxing the appetite with pie, cake, puddings and other dainties? These latter viands may be all right enough, only when they are used to tempt one to overeat. It would be wiser to eat them when you first sit down to the table. In many cases, at least, half the food eaten, if of proper quality, would support the person in perfect health; the other half causes trouble in various ways. All these matters are simple and true. It is but little trouble to learn to run one's life in accordance with them. It soon becomes as easy and natural as it is to go along carelessly. How many of you are doing it, my dear friends? Hold up your hands so we can count. I can honestly hold up both of mine and thank God that I learned to pay attention to these laws of health before it was too late.

T. B. Terry.

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Going West.—Where and When.

GEO. T. PETTIT.

Will you give me some information through your paper in regard to this: I intend going West early next year; what are the prospects of a young man hiring out with the idea of taking up land in a year or two for a stock farm? What wages are paid and what time in the year is help usually hired in these four States, Nebraska, Illinois, Oregon and Washington? Geo. Lower.
Lockport, N. Y.

As the reply to this query will doubtless be of interest and value to a great many P. F. readers as well as to Mr. Lower, I have taken some pains to secure reliable information from the States named. As we live within about ten miles of the Nebraska line, conditions in Eastern Nebraska are practically the same as here. If you are able-bodied and willing, and somewhat skilled in the art of farming, you will have no difficulty in hiring out to good advantage in any of the States named. But when it comes to "taking up" land (homesteading) the desirable land has all been taken, and the only way in which a fellow can get a farm now is to buy it. There are cheap lands in Western Nebraska and Kansas, but they are not well adapted to general farming, and we doubt whether they ever will be on account of the elevation and frequency of drought. Since farmers in those regions have dropped corn and gone to raising Kaffir corn, sorghum and wheat, they are doing better. Out near the western line, however, it is essentially a stock country. It takes several acres of the buffalo grass to support one animal, and a large territory is necessary to make the business a success. But even these lands are not as cheap as they were. I know a man who a year ago bought several sections at around $2.50 per acre and in a few months had doubled his money. A severe drought or two will lower the price and then will be the time to invest. Not much show for a man working by the month to buy in Eastern Nebraska or Kansas, where $10,000 per quarter is not uncommon. A good many are going to Oklahoma in search of cheaper lands. Hands are usually hired toward spring to begin March 1 to April 1, though if a man has a hand that suits him, or knows where he can get such a one, he generally speaks to him in the fall. Wages average $20 per month. There are hands enough to meet the demand.

In regard to the outlook in Central Illinois, J. F. Williams, of Shelby Co., writes: "Single men get $20 and washing, on the average. Men with families get about the same and free rent. Corn is all husked by the bushel, and men frequently work the following season for those whose corn they husk. Other hands are picked up near March 1, when many begin work. I never had trouble to get a good place almost any time, as there are so many changes. Broom corn hands get $1.50 per day and board, on average, I think, and nearly always work by the day. Husking 2 cents per bushel when furnished; 3 cents or more when man furnishes himself. Day labor $1.25 to $1.50 about town, for factory, odd jobs, etc. A few feeders keep men the year around at about $20, but most farmers only hire by month during spring and early summer."

Wm. H. Wheeler, Lane Co., Ore., which is in the western portion, writes: "On the west slope of coast range labor is employed only in haying, and then one neighbor hires another at about 15 cents an hour, board optional. I know of but two farmers who hire by the month at from $22.50 to $30 with board. They hire by the year whenever their help leaves, one man to the farm. Here are little farms along bottoms, with 10 to 15 acres of bottom to each farm of 160 acres. No hill lands now cultivated, though the day is coming when these now timbered hills will be profitable in winter grain and fruit. The three rainless months make them impracticable for most crops. On the other side of coast range lies Willamette valley; leading crops are wheat, hops, prunes and other fruit, with dairying coming in during the past six years. Help usually hired there in July when grain begins to ripen, at about $30 and meals; carry your blankets and sleep in straw stacks. Employment lasts until rains come in September. Help scarce and usually consists of mountaineers who come to the valley to make a little ready money. Hop and fruit pickers usually go in families and adults make $1 to $1.50. Tons of fruit rotted on the ground this year for want of drying facilities. East of the Cascades wheat is the great crop, and harvest hands get $2 to $3 per day during the season, with meals. The largest lumber company in the world (The Booth-Kelley Co.) operates in the upper Willamette Valley and always wants men at $1.75 to $3 a day without board."

Adolf Aebi, Polk Co., Northwestern Oregon, writes: "Hard matter to say when would be the best time to come to Oregon. Farmers can work here all the year around. From December until March we have the wet season, then it is too wet to farm, but we can make our wood. Hands were scarce here this season, and farmers would pay $1 to $1.50 almost any time; hands usually hired by the day. Previous to this season hands received 75 cents a day for plowing and wood chopping; $1 to $1.25 a day is paid in haying and harvesting. I would think that spring, say about March, would be as good a time to come as any."

S. H. Christian, Spokane county, Eastern Washington, writes: "Good, steady hands can get work in the dairy or on the farm almost any time of year, but the most demand is in the spring, say March, and in July just before harvest. Wages are, for dairy hands, $20 to $35 per month; harvest hands, $1.50 to $4 per day and board. An A1 header driver could get $5 a day in some places. If any of your friends come out here, I think I could get him a job if he came well recommended as being a good hand."

N. E. Carpenter, Okanogan Co., Northeast Washington, writes: "For steady employment a man generally receives $1 per day on either a stock ranch or a farm; during harvest $1.50 to $2 for common laborers. For such work as sack sewing, forking, tending separator, engineers, etc., wages range from $3 to $5 per day. Harvest work generally begins between August 15th and September 1st, but varies considerably."
Oneida, Kan.

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A Long Time Experience with Clover.

ALBERT MURPHY.

My first experience with clover dates back nearly a half century, when Southwest Michigan, where I lived, was being settled by energetic pioneers. The annual "clearings" made additions of "new ground" to their farms, which responded richly in grain and vegetables. The "deadenings" furnished pasture in summer, and the stalks and straw rough feed for winter. Gradually it was found that the deadenings were becoming a thing of the past, and the first-cleared fields were failing to bring the usual large crops. The question how to provide home pasture and preserve soil fertility was answered in red clover.

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Long-nosed hogs and scrubby cattle roving the woods gave way to improved herds on the farm. Cow bells were laid away for relics and the cows were found quiet in the field. This, with the increase of milk and butter by feeding clover hay in winter brought gladness into many homes. The introduction of clover proved to be the great turning point between pioneer life and scientific farming in that section.

My father's farm, one of the best, had run down to about 12 bushels of wheat per acre, when he decided to try clover on one field. The result was gratifying and clover was adopted as one of the farm crops. More than thirty years later the same field being sowed to wheat among corn shocks yielded 33 bushels per acre. In Northern Indiana I bought a run-down farm and sowed clover on wheat that was in one field. The year following I got a hay and seed crop, and spread the haulm on the thinnest portions. The corn crop that followed was double that on similar land across the road not treated to clover. After the second good corn crop the ground was sowed to oats, which lodged badly, but we saved 55 bushels per acre. I knew the field thirteen years later and it was yet remarkable for good crops.

In all my farm experience I have found a clover sod the best to precede a corn crop and the most convenient and profitable place for the fall and winter manure; the best help in keeping the farm in good condition for all crops, also for keeping crops and land free from disease and insect pests.

Farm land, like a mule, should never be idle, and for best results must be well fed. Clover is good food for either, provided their organism is in condition to assimilate it. If it is not the needed remedy should be applied. On poor land, deficient in humus, the young clover starves or dies of thirst before its roots reach permanent moisture. Or, if by means of favorable weather it should live, its feeble growth does not justify the expense incurred in starting it. Such land needs plant food, with humus and tillage, and possibly lime, to make it available. As it benefits land and makes stock feed in proportion to its growth, it should be assisted with acid phosphate and potash on land that otherwise would not bring a good crop. It not only puts nitrogen and humus into the surface soil and improves its mechanical condition, but it forms myriads of deeply penetrating roots which bring up mineral plant food and act as subsoilers, thus enabling the land to hold in reserve a larger quantity of water, which, with good tillage, comes to the relief of growing crops in dry weather. On well drained land the catch of clover is better, the root development greater, larger quantities of potash and phosphoric acid are brought up, more nitrogen is brought down, and better results every way are obtained. The best method I have found on thin land is to sow cow peas, with potash and acid phosphate, letting the vines lie on the ground for a winter covering. These vines provide the needed plant food and humus and insure a mellow condition of soil. Then I sow clover early with a light seeding of oats, or sow alone and clip the weeds above the young clover. The latter gives a more vigorous growth, and makes the catch surer. I have never failed to obtain a fair stand of clover when not sowing more than six pecks of oats per acre. Some years ago I followed a four-year rotation, letting the clover stand two years, but observing that it seldom did well the second season I changed to a three-year rotation. I follow clover with corn and wheat, sowing the clover in February, when the ground is frozen into a honey-combed condition, using about 12 pounds of seed per acre.

I use the small red clover, as I can get more and better hay from two mowings than from one of the mammoth; and the earlier and later mowings are good to keep the land clean. I start cutting when in full bloom and let it wilt only until no sap can be seen when stalks are hard twisted. It should be hauled in, not only before the dew falls, but, if possible, in the heat of the day. To accomplish this I cut in the afternoon to get in next day, or else cut in the morning and put into windrow or cock in the evening. It should be stored in the barn with the least possible trampling, and without salt, as that retains moisture, then let alone until dry. Such hay has kept my farm teams in excellent condition since June with almost no grain, and perfectly free from cough. It is far superior to timothy, being more nearly a balanced ration. It is easier digested, and keeps the whole system in better condition. It is profitable feed for all farm animals and for poultry, but especially for milch cows and breeding ewes. I do not save seed, as the crop is worth more here for hay.
Orange Co., Va.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Shredding and Baling Stover. — S. W. Lumm, Lebanon, Mo.—"I wish to shred, cure and bale my corn fodder. I have heard a great many discouraging reports about its keeping baled in good condition. Can you tell me a method of curing and handling so that it will not spoil in bales." We see bales of this shredded fodder daily on the market, and apparently in fine order. You say that you wish to shred, cure and bale. We think that you will find it necessary to cure before shredding, and afterwards too. It should be cured as well as possible in the shock, and when shredded we would let it remain in the barn till there is no further danger of heating before baling it. Here we had unbroken sunshine and hot weather through the greater part of September, and the fodder cured finely. In fact our corn, which was planted in March, was cut and shocked early in August. We have never baled any, but it is as we have said, on the market here daily in bales, and looks as fresh and smells as sweet as any fodder can. It will sweat slightly after shredding and putting in a heap, and we would not bale till after this is over.

Northern Seed Oats.—D. N. M., Rich Hill, Mo.—"Oats do poorly here as a rule, although sometimes a field does well without extra care, except with different seed. Will Northern grown oats yield better than the native stock?" A change of seed is often desirable with many plants, and seed of oats matured in a cooler climate will doubtless do better than the home grown seed. This is for spring sown oats. It would seem probable that in the southern part of Bates county you should be able to grow the winter oats. At any rate, they are worth trying on a small scale. The seed should be sown early in September to get well established and tillered before winter. You might try the Texas Rust Proof or the Virginia Gray Turf oats. These winter oats, where they stand the winter, will always make a better crop and heavier oats in the South than the spring oats, and even in sowing in spring. I believe that you would find it an advantage to use these winter oats.

Feeding Value of Acorns. — John Allin, Prince George C. H., Va.—"Can you tell me the feeding value of acorns as compared with corn for hogs?" We can find no analysis of the food materials in acorns, but their chemical analysis shows that they have less than one-third the percentage of nitrogen that corn has, about one-fifth the amount of phosphoric acid and twice as much potash. As the protein will be included in the nitrogenous matter it is evident that the acorns have less protein than corn, but a large percentage of carbonaceous and starchy matter.

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Save the Calves. — The season is approaching when farmers who own dairy stock will be obliged to care for young calves. Great loss is sustained each year from calf scours, a disease which often attacks the calves when very young. Sometimes the disease runs through the herd, and it is almost impossible to raise any calves at all. Various remedies have been suggested, but nothing has proved really effective until Hood Farm Calf Scour Treatment was placed on the market. This treatment consists of Calf Scour Cure and Digestive Powder. They were prepared originally to be used in the valuable herd of Jerseys at Hood Farm, Lowell, Mass. The proprietor of Hood Farm is Mr. C. I. Hood, a pharmacist of very large experience, and he gave special attention to this subject, because he was suffering very severe losses in his own herd. Every farmer who expects to raise calves this season should be supplied with these remedies. It will be a very profitable investment to buy them at once. Hood Farm Calf Scour Cure and Digestive Powder sell for $1 each. Also in larger sizes $2.50. Express prepaid to any railroad point for 25 cents additional. They are prepared by C. I. Hood Co., Lowell, Mass.

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Pain or dull ache in the back is unmistakable evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

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Among the many famous cures of Swamp-Root investigated by the Practical Farmer, the one we publish this week for the benefit of our readers, speaks in the highest terms of the wonderful curative properties of this great kidney remedy.

GENTLEMEN:—I know you do not need this from me as you are daily receiving hundreds of testimonials. However, I want to say that I think you have the greatest remedy on earth for kidney, bladder and liver trouble. I had been troubled for years, was operated on several times and spent a large amount of money and received no benefit whatever. I suffered everything and it was necessary for me to get up as many as twenty times during the night. I gave Swamp-Root a thorough trial and it completely cured me. J. W. ARMANTRAUT.
Sept. 12th, '03. Greentown, Ind.

Lame back is only one symptom of kidney trouble—one of many. Other symptoms showing that you need Swamp-Root are, obliged to pass water often during the day and to get up many times at night, inability to hold your urine, smarting or irritation in passing, brick-dust or sediment in the urine, catarrh of the bladder, uric acid, constant headache, dizziness, sleeplessness, nervousness, irregular heart-beating, rheumatism, bloating, irritability, wornout feeling, lack of ambition, loss of flesh, sallow complexion.

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Live Stock and Dairy.

Stock Queries.

Brewers' Grain. Will you please inform me of the feeding value of brewers' grain, if any, for hogs? W. C. DAVIS.
Bradford, Pa.

(Reply by Prof. A. M. Soule.)

Wet brewers' grain would not be as valuable for hogs as some other forms of grain because of the fact that a part of the carbohydrates have been removed in the process of making beer. Then the protein content of the brewers' grains is considerably increased over that of pure barley, and barley will probably give better results when fed to hogs if mixed with one-third to two-thirds of corn or corn and cob meal. In the immediate vicinity of a brewery where the grain could be obtained very cheaply, one could possibly afford to feed the wet brewers' grains to hogs, though if it is necessary to haul the product any distance this could hardly be successfully done. Then, the hogs living on such a sloppy food would not be so likely to keep healthy as animals that could be kept in drier, better quarters and fed on grain not so liable to fermentation. There is absolutely nothing in brewers' grains to prevent their being fed to hogs, but they ferment so readily and the volume is so great that it is hard to keep the feeding troughs and grounds in a sanitary condition and the hogs are thus more likely to become diseased than when fed under better conditions. Dried brewers' grains on the other hand, present another proposition to the hog breeder. The product is no more perishable when properly made than bran, and as it is rich in protein and low in ether extract, the farmer who wishes to make fine bacon and can purchase the grains at a reasonable cost can well afford to feed them, especially if he will mix them with about one-third of corn or corn and cob meal. On one of the most celebrated breeding and stock farms with which the writer is acquainted, from one-third to two-thirds of the ration is made up of dried brewers' grain and the balance corn. The animals on this farm are noted for their firm flesh, high quality and reliability as breeders.

Raising Calves.—I wish to ask a few questions in regard to an article in the P. F. of July 25th, on raising calves. Why should not the calves have grass instead of hay? I have raised fourteen so far without loss of a calf and with no trouble from scours. They have skimmilk with any old grain they like and all the grass they will eat. But I have been told I should feed hay and not let them have grass. Why? Is not grass the calf's natural food? Then why should the calves need separate stalls? Mine run together and curl up and sleep in a bunch where the cows can see them at milking time. They are lonely and timid alone, poor little things. Why should they suffer the pangs of fear and loneliness when it is easier to put a number in one large box? I know they are kept in separate boxes at some fine farms but I would like to know why. Then Miss Gruver says she finds bulls most profitable. I do not dispute their readiness for market, but I do not like to fatten calves and don't see the profit when I can sell cream for 50 cents a quart. As for any other market than the butcher how does she find it to pay? I have a young St. Lambert I am raising which I obtained from as fine a herd as there is in Massachusetts. I can get all I want at a nominal price, fine, healthy calves, for fattening prices, because they don't want to raise them; they don't pay. But a heifer from the same farm is a rare prize and seldom obtained. At another farm young bull calves, the sons of an Island Guernsey, are cut up for chicken meat. Now if Miss Gruver will tell how one can sell them she will put me on the high road to wealth, for I could fill my barns with little bulls of the choicest strains for a mere song.
MISS A. WARNER.

(Reply by Prof. A. M. Soule.)

There is no reason why calves should not have grass instead of hay as soon as they are old enough to eat. Spring born calves have the advantage of a succulent pasture, which means very much to them, but as they have to contend with flies the advantage of pasture is frequently offset by the annoyance these insects cause. Calves born late in the fall do not have to contend with flies but they have to eat grain or hay. If a calf is old enough to eat as soon as the grass is ready or is born after the grass comes there is no reason why it should not have the benefit of the pasture; in fact, there could be nothing better for it. The trouble from scours is more likely to come from feeding milk in bad condition or allowing the calf to gorge itself. Any grain should not be fed indiscriminately to calves; for instance, it would never do to feed cotton seed meal. Ground oats is better for calves than anything else, because it is a protein or muscle-building food and hence adapted to the growing animal. Corn meal contains too much carbohydrates and not enough bone or muscle-building material, and besides that, it is too fattening to feed to dairy animals. It is an advantage to give the calves separate stalls simply because it keeps them from sucking each other. This, if allowed to run on, is likely to cause irritation and in some cases may even set up inflammation. This is the principal reason why it is deemed best to have separate stalls for calves. If they will run together without sucking each other, there is no particular reason why they should be separated. Calves that are well cared for and kept in separate stalls, unless the partitions are boarded up tight, will not be lonely and will not worry. Then when calves are fed separately it is easy to study their individuality and so feed them according to their needs. All animals vary widely in their natural wants, and a good feeder must study his calves separately in order to treat each to the best advantage. Bull calves of the dairy breeds, which I presume you are writing about, are not as profitable as the heifers in our experience. It is much easier to sell the heifer calves for a good price than the bull calves. In some localities, however, bulls may be in more demand than in others. As to the fattening of calves on whole milk, they certainly must bring a much better price than they do in this vicinity or it could not possibly be a profitable business.

Balanced Ration.—I have no silo, but have hay, both timothy and clover, also spelts, oats and sugar mangels, and corn cut green, as it did not mature. Have I sufficient variety to form a balanced ration for milch cows and for steers to be fed through winter and finished on grass. I intend feeding the corn stalks and straw cut.
Cataraqui, Ont. J. W. SUDDARD.

(Reply by Prof. A. M. Soule.)

With the foods you have in mind you should be able to feed your cows and steers very nicely during the coming winter. When one has a plentiful supply of roots a silo is not so essential as in sections of the country where roots do not grow as successfully as they do in Ontario. Cows, as you know, do best on a succulent ration and you can obtain this in the following manner: Run the corn stover through a cutting box, pulp your mangels and mix the two together as much as three days in advance of the time you wish to feed the mixture. This you can feed with equal satisfaction to your steers and milch cows. Grind the oats and spelts together in about equal parts. Spelts are said to have about the same feeding value as oats. Both of these are protein foods; that is, they contain a good deal of muscle-building material and this is necessary for the most economic production of milk. For obtaining the most rapid growth in beef cattle the mixture of ground grains will work very nicely with the roughness you have on hand. Feed the grain in proportion to the needs of the individual cows. Some should have from 8 to 10 pounds of the mixture per day, others possibly more. For the steers if you wish to maintain them and keep them in good growing condition from 4 to 6 pounds of the mixture will be enough to feed. Give them all the cut corn and chopped mangels they will eat; say allow each animal from 20 to 30 pounds of mangels and 25 to 30 pounds of good corn fodder; more if they will eat it up clean. Feed the animals twice a day. Mix the grain in with the cut corn and mangels with the fork; this will cause the animals to eat the ration up better. By mixing the corn and mangels together as suggested, the juices will be absorbed by the corn and the whole mass rendered soft and more palatable to the animal. In the middle of the day give the animals from 5 to 10 pounds of mixed clover and timothy hay. If you have the clover separate it will be better for both the cows and the steers than the clover and timothy, as the clover contains a good deal of protein and so is well adapted as a food for growing animals and milch cows. Along about eight o'clock in the evening, just before bedtime, it is well to visit the stables and give the animals another forkful of hay. By feeding them in this manner and keeping them in a sanitary stable well ventilated but sufficiently warm, your cows and steers should make plenty of milk and growth during the coming winter and the steers should be in excellent condition to finish on grass the next summer.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Impaction.—Ringworm.—A Jersey cow died last week. It was about three years old, with first calf, which is three months old. The first notice of her being sick she failed to come up at night; was found next morning about 9 o'clock, down and unable to get up; had but little use of herself; perfectly cold all over, but no shivering. She was helped up and could stand, and during the day she could get up after being first helped up, but could walk only a few steps before she would drop down; eyes looked sunken and lifeless, with a deathly stare. Would not eat anything; drank a little water; failed entirely in milk. Did not appear to be in much pain, if any, during the day. Would stretch her head out on the ground occasionally when lying down. Had not been fed during summer; was in natural grass pasture with a good deal of broom sedge and what we call Spanish clover, a little, short grass that is very abundant in this country. On examination found the manifold to be clogged with hard, dry material, and the folds seemed rotten; gall bladder seemed to be a little large; would just about fill a teacup. 2. I have a mare that has a little skin trouble, which I have noticed ever since I have known her, which is about one and a half years. She has a little scurvy sore just under her ear, also one on the inner part of her foreleg, about half way between knee and body; one under her jaw between the jaw bones. These sores are about the size of a silver quarter dollar. Do not get any larger. Occasionally they will get sore and then will dry up and look like they were well for a week and then will look a little sore for three or four days. J. M. RAY.
Liberty, N. C.

1. There can be little doubt that the cow died from impaction of the stomach followed by inflammation. This was caused by too much coarse, dry food and could have been prevented by abundance of good water, salt and succulent food. Taken in time the trouble may usually be remedied by the administration of a smart purge, such as a pound of epsom salts, half an ounce of powdered gamboge, one ounce of ground ginger root and a cupful of molasses in two quarts of warm water. This is to be followed by stimulants, as whiskey, two ounces, and fluid extract of nux vomica, half drachm, in pint of warm flaxseed tea every four hours until the bowels move freely, then to be continued three times daily in oatmeal gruel until animal is well. 2. The sores appear to be due to ringworm and will probably disappear if you cleanse affected parts thoroughly by scrubbing with soap and hot water and when dry rubbing in a little iodine ointment, which is to be repeated as often as is necessary.

Chronic Indigestion.—I have a horse 8 years old; hearty generally, but is looking badly now, and digestion not the best. I notice little worms in his actions. He is a deep blood bay when at his best, but now has a mangy appearance. When weather is warm he does not perspire freely; may drive him 4 or 5 miles and he will be comparatively dry except under the collar and saddle, but after standing in his stall awhile right after being driven, he will gradually become wet with perspiration. Under these conditions he breathes rapidly, too much so for a horse in good shape. In cool weather does very well so far as his breathing is concerned. Also coughs occasionally and is inclined to break wind at same time. L. M. JONES.
Milledgeville, Ga.

The horse is afflicted with chronic indigestion which may be aggravated by the presence of worms. Have him clipped at once and have his teeth put in order by a veterinary dentist. See that his stable is clean and well ventilated. Feed him molasses freely, diluted with an equal quantity of water and mixed with cut hay, coarse wheat bran and corn meal. Feed this night and morning, using at least one quart of New Orleans molasses at each feed, and feed whole oats at noon if he has work to do. The cough and passing of gas show that he is already somewhat affected by heaves, which may, however, prove curable by feeding as above.

Puffs on Hock.—Will you please tell me what ails my colt and what to do for it? It is about four months old; about a month ago I noticed a soft bunch in front of left hind knee or hock joint and two soft bunches on hind part of joint; bunches have enlarged; one in front is as large as a goose egg, and bunches on hind part of joint are about the size of a hen's egg. There is one forming on outside of joints. They are not sore, but seem to be getting more firm. Colt is in medium flesh; is on pasture and has oats and corn mixed twice a day.
Evansville, W. Va. W. F. WALTER.

The puffs are due to leaking of joint oil and colt may eventually develop a true bog spavin. Clip hair from parts and rub two or three times a week with iodine ointment. See that colt does not strain joint by galloping.

Pawing in Stable.—A 3-year-old colt I have is all right in every way; well broken to work and nice to handle, but she has a habit of getting her forefeet in the manger during the night and over her halter rope, and she does it in the day time when she is in the stable three or four hours. I have whipped her for that but it does not seem to do any good. H. W. A. TRAINER.
Adna, Wash.

Simply turn colt loose in a box stall and allow plenty of exercise daily while feeding digestible food and seeing to it that the bowels are kept open. If there is any irritation from intestinal worms treat accordingly. Colt will, when full grown, have forgotten the bad habit described and may then be kept in an ordinary stall.

Paralysis.—I bought a mare this spring, said to be seven years old. Used her in putting out the spring crops. She is a good worker, also a good feeder and still has a good appetite, though she has been ailing for the last two months. She cannot get her mouth down to the grass; seems to be stiff in the neck; has fallen off some. Local horsemen think she was foundered, but veterinary surgeon thinks not; says it is stiff neck. He has blistered it once and burnt it once but she does not seem any better. I am working her some. C. F. WALTER.
Doubs, Md.

This is evidently a case of partial paralysis unless it should be found that she has been troubled with fistulous withers or poll evil. Give her fluid extract of nux vomica three times daily, commencing with twenty drops at a dose and increasing gradually until involuntary twitching of the muscles is observed, at which stage go back to original dose and repeat. Also rub the muscles of the neck once daily with a liniment composed of one ounce each of turpentine and aqua ammonia with four ounces of soap liniment in water to make one pint; shake. The internal treatment cannot safely be given if mare is in foal. It is questionable if case is curable or not.

Periodic Ophthalmia.—I have a horse about 9 years old, whose eyes get sore every three or four weeks. They first begin to run water; eyes swollen some; eyeball turns white and keeps lids closed; stays in this condition a few days and then seems to get all right. 2. The same horse has an itch. He wants to gnaw himself, especially when he is warm. 3. Have a fat hog that makes a wheezing sound when he gets his breath. Some call it quinsy. VIRGIE BLAKELY.
Washita, Ark.

1. The horse is afflicted with periodic ophthalmia, which is incurable and will eventually cause blindness of one or both eyes. During an attack keep eyes covered with a soft cloth to be kept wet with a solution of one drachm of sulphate of zinc and twenty drops each of fluid extract of belladonna and carbolic acid in a quart of soft water. Also give internally at such times one drachm of iodide of potash three times daily in water or soft feed. At other times keep him in a darkened but well ventilated stable. When inflammation subsides paint eye once daily for ten days with a solution of two grains of nitrate of silver in an ounce of distilled water. 2. The horse has also a skin trouble, probably due to over feeding and lack of exercise. Have him clipped and sponge itchy parts three times a week with a solution of sheep dip, then rub with dry flowers of sulphur. If he is quite fat it would benefit to give him a couple of tablespoonfuls of glauber salts in drinking water or soft feed once or twice daily as required to keep bowels acting freely but not scouring. 3. You do not say whether hog is kept for breeding purposes. If not then better slaughter as soon as weather is cold. The trouble seems to be asthma, and for this it would benefit to give a drachm of glyco-heroin three times daily, increasing the dose if necessary.

Lymphangitis.—What ails our horse? Went to the barn in morning to feed, found horse lying down; when he got up something appeared to be the matter with right hind leg, as he would not bear any weight on it, and held it up part of the time. Would not eat except a few bites of corn. After breakfast had shoe removed and found nothing wrong with foot. First joint above hoof was swollen considerably, and we thought perhaps it was a sprain. Horse would stand with head hanging down, apparently suffering very much, and trembling sometimes as with a chill. By the middle of afternoon the whole leg was swollen very badly and a watery fluid oozing out in places on inside of leg continued to swell until next day. Nothing seemed to be the matter when put in the stable and fed the night before. Was worked in the afternoon of the day before to a mower cutting weeds, but not worked hard. Horse was about 18 years old. Died in about nine days. In about three weeks a mare was taken exactly the same way and held the same way, except not much fluid oozed out of leg. She is getting well, but the leg is swollen some yet from hock joint to hoof. The swelling goes out very slowly and leg is very sore to touch. The horse had considerable fever toward last, but the mare did not have much except in swollen leg.
Orange Co., Ind. SUBSCRIBER.

The disease is a common one known as lymphangitis which usually responds nicely to proper treatment. Farcy might be suspected, but you say nothing of its characteristic "buds." Glanders may cause a sudden swelling of the legs but there is in such cases a discharge from the nose and ulcers appear upon the lining membrane of the partition between the nostrils. Lymphangitis follows a period of rest—one day or more—when hard worked horse is fed heavily on grain. It is to be prevented by giving soft food, no grain and plenty of exercise when there is no work to be done. Treat by wrapping affected leg with soft straw or hay rope from foot to body and keeping this saturated with either hot or cold water. Feed soft bran mash and in each, and also in drinking water, dissolve a tablespoonful of saltpetre. Give four 10-drop doses of tincture of aconite three hours apart at outset of attack. When fever abates a physic ball may be given with advantage, and when pain in leg subsides discontinue use of rope and water and rub leg well once daily with a mixture of equal parts mercurial ointment and lard, or twice daily with soap liniment and allow plenty of walking exercise.

Tetanus.—I have a fine mare 5 years old, which foaled three weeks ago; horse foal which I meant to raise for breeding from. He seemed to thrive finely until 19 days old. In the morning of the 19th day was scouring badly and stiffened front legs. I gave him 60 drops of laudanum, which stopped scouring some; I repeated dose at noon with 2 ounces castor oil; in afternoon hind legs grew stiff and seemed cramped; he could not get up unless lifted. Next day his hind quarters were as stiff as if frozen; the muscles along the back were hard. I blistered back with turpentine and hot water but without avail. By night was rigid all over, but would still suck greedily. I thought it was no use, so I killed him. JOHN SMITH.
South Westport, Mass.

The disease was apparently tetanus (lock jaw), but such cases are very rare in foals. In this disease a prominent symptom would be present but is not mentioned by you. We refer to the fact that the haw of eye (membrane nictitans) protrudes over the eyeball when the head is raised. The cause of the disease in such a young animal would be entrance of germ of the disease by way of the raw navel cord. It is improbable that the foal could have been saved if stricken with lockjaw, but the disease could be easily prevented by the immediate application of a strong disinfecting solution to the raw navel cord at birth and once or twice daily until it dried up, fell off and no raw spot remained. As often advised in this department of the P. F., this plan should be followed as regards every young animal born upon the farm. It helps to prevent scours in calves and is also a sure preventive of navel and joint disease in young colts. A suitable disinfecting solution is made by dissolving two drachms of corrosive sublimate with one drachm of hydrochloric acid in half a pint of boiling water, to be used when cold.

◆

How the Tubular Grows. — The remarkable business being done by P. M. Sharples, manufacturer of the Sharples Tubular Separator, at West Chester, Pa., is witnessed by the fact that he is again enlarging his plant. It was only last year that large additions were made which it was supposed would meet all demands for manufacturing and storage. But the inability to keep up with their orders during the past year quickly determined the necessity for the buildings now being erected with all possible speed. They are a brick boxing and storage building 272 feet by 32 feet in size, and a blacksmith and tool maker's shop with room for tinning furnaces 45 feet by 100 feet. The West Chester factory was already the largest in the country. Nothing short of a phenomenal demand for the popular tubular could make necessary the extensive enlargements at this time. The prospects for the tubular would seem to be exceedingly bright, and from a letter just received from the factory and home office we are informed that this is the case. The outlook for the immediate future gives promise of taxing to its full capacity the great plant with all its superior facilities.

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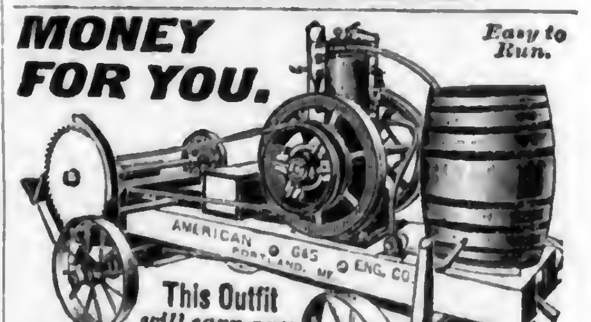
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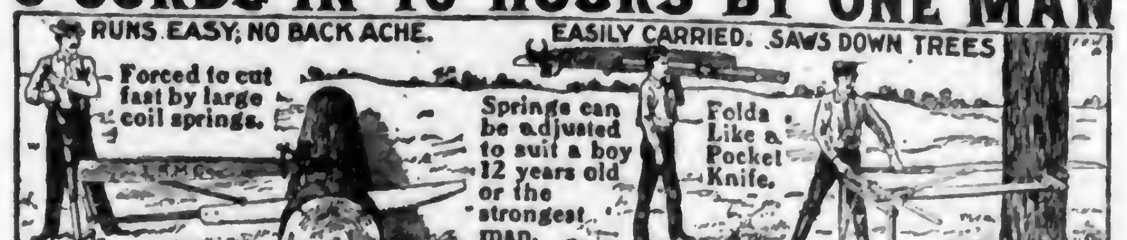
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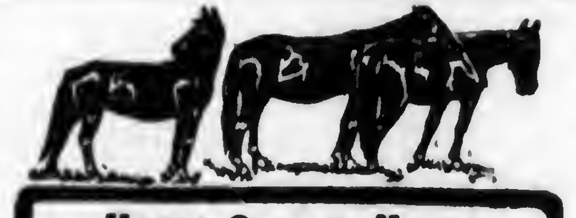

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My offer is made to convince you of my faith. My faith is but the outcome of experience—of actual knowledge. I KNOW what it can do. And I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism. I will then arrange with a druggist in your vicinity so that you can secure six bottles of Dr. Shoop's Rheumatic Cure to make the test. You may take it a full month on trial. If it succeeds the cost to you is $5.50. If it fails the loss is mine and mine alone. It will be left entirely to you. I mean that exactly. If you say the trial is not satisfactory I don't expect a penny from you.
I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs for it is dangerous to take them. You must get the disease out of the blood. My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met, and in all of my experience, in all of my 2000 tests, I never found another remedy that would cure one chronic case in ten.
Write me and I will send you the book. Try my remedy for a month, for it can't harm you anyway. If it fails the loss is mine.
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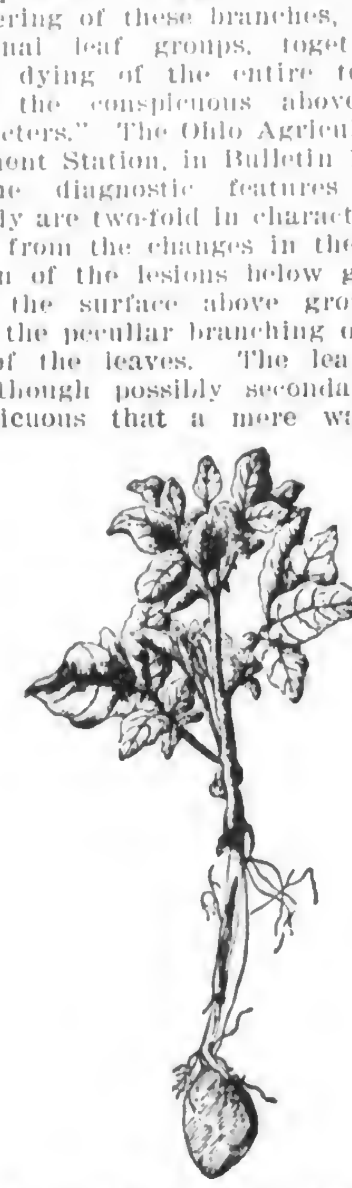
THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

A New Potato Disease.—Among my Early Ohio potatoes in the garden I found a number of plants which showed to me a new disease. Some fungus enemy seemed to have attacked them on the stem just under the ground surface, and in some cases almost severed the connection between top and underground part. Usually the leaves were clustered or rosetted, and at various places near the stalk efforts had been made to produce tubers. The hills were filled with an immoderately large number of little bits of knobby, knotty gnarly potatoes. I do not know whether this was the disease known as "rosette disease" or not. I believe it is something like it, although it appeared only in the garden patch and not in the larger fields where the same seed had been planted. "Early dying of the vines before the formation of many tubers; the underground parts appear to be the seat of the disease agency, while at the same time excessive branching in some examples and in general a conspicuous clustering of these branches, or of the terminal leaf groups, together with early dying of the entire tops, have been the conspicuous above ground characters." The Ohio Agricultural Experiment Station, in Bulletin 139, says:

"The diagnostic features in this malady are two-fold in character. They arise from the changes in the stem by reason of the lesions below ground or near the surface above ground, and from the peculiar branching or clustering of the leaves. The leaf clustering, though possibly secondary, is so conspicuous that a mere walking or driving through the field affords sufficient opportunity to detect a large percentage of the affected plants. These abnormalities of the leaves are useful only from the fact that they are striking evidences of something wrong—they enable the potato grower to walk through his field and locate the trouble. However, they offer no clew as to the cause which brings about such clustering; it would seem even possible that a variety of causes might result in checking the growth of the shoot and giving this rosette aspect. It may be observed in passing that while the leaves on such branches do not resist the leaf blight fungi as much as do normal leaves, yet the leaves cannot be pointed out as the foundation of the trouble. It is otherwise when we consider the local areas of the stem in which there is softening or death of the external portion; this we find in the lesions before mentioned. They are of diverse appearance, commonly having a darker character than the whitened portion of the stem beneath the earth. These diseased areas, which are commonly brownish or dark, may be irregular in shape or of almost an elliptical form. Often in advanced stages of the trouble an oblong 'blaze' more than an inch in length may be found along the side of the potato stem. (See cut.) When we seek for the cause and endeavor to give the etiology of this disease, investigation must be chiefly concerned with the production of these lesions on the stem. It is to be expected that the shoots of the plant will show the effects of so serious a disease on the stem near its base."



The infection seems to be carried over from one crop to the next on the seed tubers; a fact which suggests the proper remedy or preventive in the treatment of the seed potatoes. It has been found, in repeated tests, that the corrosive sublimate treatment, which has been often recommended and employed for potato scab, has little if any effect on the rosette fungus, and that plants grown from seed that had been subjected to the formalin treatment, gave almost no evidence of the disease.

"From the standpoint of losses, the rosette disease of the potato is similar to the potato scab; usually neither entirely destroys the crop, but both may diminish the yield, and in that way the market value. The scab also reduces the market value by roughening the tubers; an external cracking of the tubers may be referable to the attacks of rhizoctonia. Probably from 15 to 20 per cent. of diseased hills will cover the usual amount of rosette disease where prevalent; nevertheless, such a proportion of these plants should well repay prevention, especially so since it now appears to be possible to reduce this disease largely by using formalin treatment instead of the corrosive sublimate method for the seed potatoes."

The treatment recommended is as follows: Add one-half pint of formalin (40 per cent. strength) to fifteen gallons of water and soak the seed tubers in it for two hours, then cut and plant. By reason of the possible general prevalence of the potato rosette disease the formalin method should be substituted entirely for that of corrosive sublimate treatment for potato scab.

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Current Comments.

Black Pepper Against Flea Beetles and Cabbage Worms.—S. E. Brandis, Howell, Ind.—"Having a quantity of eggplants that were badly infested with flea beetles, and upon which we had been using several insecticides without satisfactory results, we finally applied black pepper. An infusion was prepared with one heaping tablespoonful of black ground pepper and one pint of boiling water. After this tea had become cold, the eggplants were sprinkled with it. The flea beetles were considerably thinned out with the first application; after an interval of three days the plants were again sprinkled with the pepper tea. The second application was all that was necessary. We have also given the black pepper a thorough trial for the cabbage worm. The results were truly marvelous. The worms rolled off the plants in every direction as the pepper was sprinkled over them. With the cabbage we used the pepper in a dry state and applied it early in the morning while the dew was still on. Two or three applications during the season will keep the cabbage clean from worms, and so do away with hand picking."

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Notes from a Carolina Garden.

We examined our second crop Irish potatoes today (Oct. 23) and were glad to find that they are bursting the ground with fine potatoes. The tops are in very luxuriant growth, and as there are no Colorado beetles at this season, there has been no need for spraying. If frost holds off ten days more, the crop will be a very fine one. Last fall the tops were not killed until late in November, though sometimes the first of November finds them cut by the frost.

The chrysanthemums are the glory of the flower garden now. We have lots of the big show varieties, but I take a great deal of interest in the little Pompone sorts, and have about twenty varieties of them. Though I disbud the large ones to get some increase in size and form, I do not care for the great cabbage head flowers the florists are so fond of growing

Tea roses have taken on their rich autumn tints, and the buds are far prettier than the early spring ones.

I made my last sowing of lettuce seed in the open ground today. This is of the Wonderful variety, and the plants are intended to simply survive the winter for heading early in spring outside. In the frames we have planted Big Boston and Grand Rapids lettuce. The Grand Rapids will be for home use, for our market demands a head lettuce, and people seem slow to find out that the curled lettuces are far better than the cabbage sorts. In the Western cities the Grand Rapids sells, but in the East only the cabbage sorts are in demand. Then, also for home use we set some plants of Maule's Improved Hanson. This is of lighter color, but similar habit to the Wonderful, and heads well in winter under glass, while the Wonderful does little till spring, and then is really wonderful in size. A well headed Hanson is as crisp as a lettuce can be, but its very crispness is against it as a shipper.

We plowed the land today for our fall planting of bulbs. Next week the narcissus of various kinds, tulips and Roman hyacinths will go in the ground, and the Bermuda lilies the last of the month. A year ago we planted two thousand narcissus bulbs in clumps in the grass under the trees in our wide spread lawn. They bloomed very prettily last spring, and another season we expect the clumps to have extended and a greater bloom than before.

The late planted sweet corn of the Improved Giant variety, which some time ago we said we feared would not make ears for the table, I am glad to say is now supplying us with fine ears. I take as much interest in getting the very latest of these tender things as in getting the earliest in the spring. Just now it is the late tomatoes we are looking after. In one of our frames, which later on will be set with lettuce we put a plant of tomatoes to each sash. The seed for these was not sown till June. They have begun to ripen, and we have laid the vines out on the ground, and when frost threatens will put the sashes over them, and keep the frost out for some time. From other plants outside, when frost cuts the vines we will gather the green fruit, and wrap each in paper and pack in crates and put in a basement just frost proof. Bringing a few at a time into a warm room they will ripen up, and I have had them for slicing until the middle of January.

Oct. 24.—Snow, sleet and rain. For the first time in my life to see snow in October and that in Carolina. Potatoes will probably be cut down tonight.

◆

Heebner's Ensilage and Feed Cutters.—The feed and ensilage cutters manufactured by Heebner & Sons, 21 Brond St., Lansdale, Penna., are intended to avoid much of the waste which ordinarily results in the feeding of the corn crop. Too many overlook the feed value in the lower stalk, which lies around on the feed lot until spring and is then gathered and burned. If the stalks be cut and shredded there need be little if any loss. The Heebner cutter with shredder attachment, are admirably adapted to this work. Each machine may be made a combination cutter, crusher and shredder, putting the stalk in the best possible condition for mastication of the whole by the animal. A power well adapted to their operation, and one without expense to procure because always present on the farm is the Heebner level tread power. Write for catalogue and be sure to mention the P. F.

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Catarrh scatters its poisons throughout the entire system. The stomach and lungs are affected by the droppings that fall into the throat and are swallowed during sleep. Dyspepsia, inflammation of the stomach, bronchitis and consumption are the results. The blood also becomes contaminated and carries the poisons to all parts of the system. Frequently in the more advanced stages, the bones of the head become decayed and the air passages are a putrid mass and create a stench so foul and offensive as to be unbearable. The expression, "rotten with catarrh," is not overdrawn or exaggerated.

Stuart's Catarrh Tablets strike at the root of this terrible, odious disease and eradicate it from the system. They are a constitutional remedy that cleanses the system thoroughly of all poisons and purifies the blood. Under their influence the head becomes clear, the discharges at the nose and droppings into the throat cease, the lost sense of smell is restored, the eye brightens, the foul breath becomes pure and sweet and the odious, disgusting disease is thoroughly expelled from the system.

A Cincinnati man says: "I suffered the misery and humiliation of catarrh for twelve years. My case became so aggravated that it seriously interfered with all my business relations. The disease became so offensive that I would not venture into anyone's presence unless it were absolutely necessary. I tried every remedy that I could get hold of. Some helped me temporarily, but as soon as I ceased taking them, I would relapse into the old condition.

"Finally a friend told me of Stuart's Catarrh Tablets and insisted that I try them. I had about despaired of ever finding help, but bought a box anyway. I began to notice the improvement within twenty-four hours after I began taking them. Before the first box was gone I felt like another man. I kept up the treatment till I had taken three boxes and was entirely cured. I have never had a recurrence of the trouble from that day to this. My head is clear and well and none of the offensive symptoms of the disease ever trouble me. It has been two years since I stopped taking them."

Stuart's Catarrh Tablets are for sale by all druggists at 50 cents, a box.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

English Ivy for Graves.

Those who are looking for some plant to cover graves—and all of us have interest in that way sooner or later—would find in the English ivy a capital plant for the purpose. In some of our Philadelphia cemeteries it is used as a cover plant, and gives the greatest satisfaction. It is trained in the desired direction when first planted, and in a short time will spread to cover the whole surface desired, forming a perfect cover of green. It is not as close to the ground grower as the periwinkle, but it is safe to say it is none the worse for that. The leaves standing up from the ground gives a more plant-like appearance to the whole, more pleasing to many than the close, even surface the periwinkle presents, most useful as the latter plant is. As to hardiness, there is no trouble with it here, even when growing on dwellings; and when trailing on the ground, snow, forest leaves and other things protect it, so that it is even hardier there than when growing in any other position. Spring is the best time to plant it. A grave wholly covered with ivy, kept in good shape, has a cared-for appearance all the time.

Protecting Figs in Winter.

The writer thinks fresh figs are delicious, and has long enjoyed the fruit from a few bushes in his garden, which give him more or less of a crop every year. There is but little care demanded by the bushes, and after the young plants are three years old they fruit every year. All that is necessary is to throw the bushes over prostrate with the ground when freezing weather comes and cover them with soil to the depth of six to eight inches. Our plan is to dig around one side of a bush, as would be done were transplanting it in contemplation, the roots being severed in the same way. The roots are cut in pretty close; and every fall they are dug around and cut on the same side. The bush is then thrown over to the opposite side, and all parts, root and tops, covered with soil. No need to do this work until freezing weather comes. When winter is over remove the soil, throw the bush back in place, and all will be right. The cutting off of the roots in the way described is rather beneficial than otherwise, as the tendency of the fig is to make more wood than desirable when in good soil, and this the root cutting prevents. The small figs just discernible at the time of covering the bushes for winter are those giving the first crop the next season. In spring, on the new growth, another batch of small ones will appear, and these will ripen, but later appearances, of which there are one or more, do not ripen in the North. After the cool days of October come, though the fruit be of good size, it does not ripen.

◆

Horticultural Queries.

Plum Query.—What is the difference between plum trees on plum roots and peach roots? Will a plum on a peach root bear and live as long as a peach tree on a peach root? Can plum stocks be grown large enough the first season for budding?

Zionville, N. C. M. W. EILER.

When peaches are on plum stocks it is believed they do better in damp ground than when on peach stocks. The peach is hardly as large a tree when on the plum, and it ripens its wood earlier. Many wealthy men grow peaches in greenhouses, and in these cases the plum stock is preferred. The borer does not attack the plum stock as it does the peach. Still, on the whole, hardly anyone uses the plum for the purpose. Plums from seed would hardly be large enough for budding the first season, unless well cared for. The common plan is to obtain one-year seedlings, set them out, and bud the following summer.

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Horticultural Notes.

Dwarf Fruit Trees.—For small gardens dwarf fruit trees are useful, but for orchards experience shows the standard is the better.

Ornamental Sunflower. — The Maximilian is a highly ornamental plant for late blooming. It flowers in the month of October, when almost everything else has done blooming. The flowers are borne all along the stems, not on the top only, as is the case with so many other sorts.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Some Hen House Points. — The following points are given by the Farm Journal: "Now is the time to build the hen house for those early pullets. A little extra care will repay for a good house. Nine by eighteen feet is large enough for forty or fifty hens. No house is complete without a double enclosure with an air-space between. This is for warmth and dryness. A single wall in cold weather will condense the moisture of the warm interior air and make a damp surface. Use studding two inches square and place eighteen inches apart, and two-ply tar paper can be put on the interior without board sheathing. Fill well all seams and laps with the coal tar paint. Have as few fixtures inside as possible—no fixed nests, no dropping boards. Nail around the walls a strip about three feet high to attach roosting poles and nest boxes to, which latter are hung on nails."

Linseed Meal for Poultry. — We always keep linseed meal on hand for stock feeding. It is good for cattle, good for horses, good for swine, and likewise good for poultry. A handful or two always goes into the mess of shredded wheat, or whatever soft food we may feed to our hens. The following is a quotation from an exchange: "Linseed meal is an excellent addition to the general variety of foods for poultry, as it is highly nitrogenous, and it is much superior to cotton seed meal, as the seeds from which it is made, are fully matured, which is not the case with the ground cotton seed. Linseed meal may be fed at all seasons. Even when grain is allowed, it will pay to feed linseed meal, and when given linseed meal the hens will lay more eggs. It is richer in the essential elements of growth and production than many other concentrated foods, and greatly enriches the manure. About one gill of linseed meal may be added to every quart of ground grain used. The linseed meal is rich in mineral and nitrogenous materials, the mixture with half a pound of ground meat making one of the best egg-producing foods. It should not be used oftener than once a day." In a general way, we endorse all this.

◆

Queries Answered.

Caponizing Questions.—W. V. R., of Tazewell, Tenn., says he is thinking of going into the chicken caponizing business, and would like to know at what age is the most suitable time to caponize. Also in what market is the greatest demand for capons, and how much a capon well fattened will bring in market per pound? We caponize our young cockerels when about ten weeks of age, or when they weigh just about 1¾ to 2¼ pounds apiece. The operation can be performed on older and larger birds, but is not as easy nor as safe. When birds are too large, there will usually be a percentage of loss—and the whole proceeding is not as satisfactory anyway. All large city markets, and many smaller ones, too, have a good demand for capons. Sometimes some inland health institutions, sanitariums, etc., have a steady demand for good capons. The prices have usually ranged at from 15 to 30 cents a pound, capon-dressed.

◆

Pointed Poultry Paragraphs.

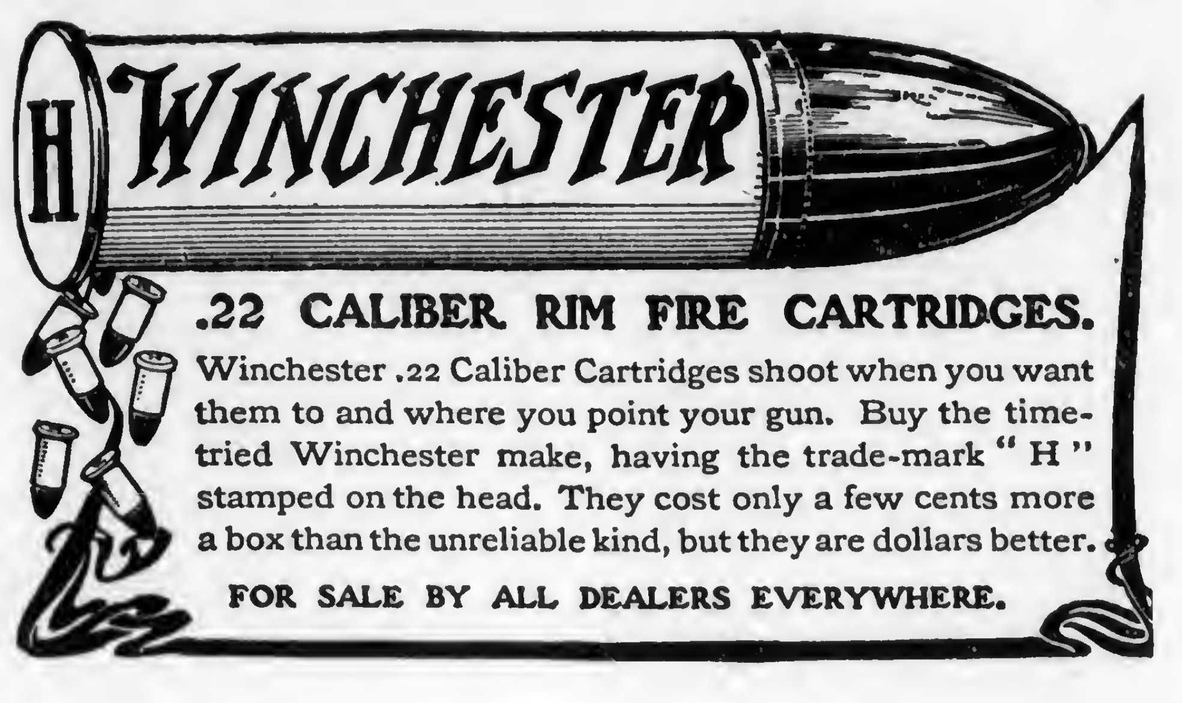
How Long will the 200-eggs-a-year hen stand the strain? Don't forcing for eggs mean weakening the vitality?

Most of the Poultry Diseases most likely come from faulty feeding. Either the food or the drink needs looking after.

A Flutter Keg or Barrel may be a good thing. Have it partially filled with hay, or better, dry sawdust. Drop the beheaded chicken into it and let it get over fluttering. Then you have it when you want it, and save the blood for manure.

Shade for Fowls.—Don't imagine that fowls can stand full exposure to the hot August sun right along without a chance to run to shade. Clumps of evergreens, or shrubbery or fruit trees in the vicinity of the poultry house seem to us indispensable.

Care of Young Turkeys. — Gapes, bowel trouble, at times called cholera or blackhead, canker and other troubles beset young turkeys, says a writer in one of our exchanges; but there will be but little of this where these dangers are avoided through care and cleanliness and good feeding. Giving many kinds of unnecessary rich foods causes indigestion, and from this comes bowel or liver trouble. Plain living is better than too much coddling and needless attention.



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The Medicines usually employed for chicken cholera with more or less (usually less) effect, are sulphur, copperas, red pepper and alum, equal parts, in a fine powder mixed together. Give a tablespoonful of this to about a dozen fowls mixed in the mash, three times a day. Cleanliness, the removal of stagnant pools, and the disinfection of the drinking water by a little carbolic acid or iron sulphate (green copperas) may usually be relied on to keep the disease in check.

Hens on the Farm.—What course the average farmer should follow in trying to improve his stock of fowls, whether in the direction of the show room, or for market purposes, seems a very simple proposition. To be a successful fancier, says a writer in Country Gentleman, many years of study and experience would be necessary, and the learning of breeding for the show room would take such an outlay of money that the farm in most cases would be eaten up long before the slightest sign of profit could be seen in the horizon. The other road, the road to market, is the road to success. Raise eggs and meat for the market. If you have only an average knowledge, and above all are willing to bestow the best of care on your chickens, you will succeed. Discard thought of the fancy bird and go to work with the business hen.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

◆

Feed Mills.—Among feed mills now on the market is the Triangle Geared Sweep mill manufactured by S. Freeman & Sons Manufacturing Co., Racine, Wis. It is the practical kind of mill, with but few parts. It takes the least amount of energy, in other words the lightest draft on the team, to run it. This is due to the fact that the grinding is done close to the centre, thus giving the team every advantage in the way of leverage. As a corn crusher and grinder its capacity reaches 20 bushels of ground feed per hour. But it is adjustable in character, and does equally good work, though, of course, less rapid grinding of oats, rye, wheat, etc., with its finer burrs. Smooth running and the absence of all jerking motion characterize it. It is one individual of a most valuable and practical line of farm appliances, such as feed and ensilage cutters, corn shellers, wood saws and windmills manufactured by the above company. Send for catalogue No. 106 to the above address, being sure to mention the P. F.

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PROF. W. F. MASSEY, Editor.

Philadelphia, November 7, 1903

Green Manuring.

Experiments in Germany in green manuring showed that in two years out of five the plowing under of green growth resulted in damage to the succeeding crop. In the warmer climate of this country we would expect to have bad results from such a practice five years out of five. Plowing under green crops in warm weather is a risky practice, and a wasteful one.

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Inoculating Alfalfa.

The fact has been discovered at the Illinois Station that the bacteria which affect the sweet clover or Melilotus alba is identical with the bacterium that lives on alfalfa roots. This is an important discovery to the farmers where the Melilotus is a common weed. In fact, in some parts of the South the Melilotus is cultivated on lime lands, and it will now only be necessary to get some of the soil where the Melilotus has grown and made nodules for the purpose of scattering over the alfalfa to inoculate it. The many ways in which the Stations are finding facts for the farmers is little appreciated by them as a class, and in many States the farmers rarely seek the aid of the Station by corresponding with them. The Stations are in each State for the especial benefit of the farmers in that State, and the Station officers are always ready and anxious to do all that they can to help the farmers. The farmer who does not keep up with the publications of his State Experiment Station is not using a means that will be of great assistance to him in his work. Have your name put on the mailing list of your State Experiment Station, and in every difficulty write them for help.

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Winter Vetch as a Nitrogen Gatherer.

Prof. Waugh, Horticultural Editor of the Country Gentleman, discusses the hairy vetch in a recent issue of that paper, and quotes the results at the Cornell Station showing that while the cow pea secured 52 pounds of nitrogen per acre from the air, the hairy vetch secured 256 pounds. He seems, however, to doubt that all this nitrogen came from the air, and there are no experiments to prove that it does. But the fact that it is there is important. In the longer season of the Southern States the cow pea would greatly excel the results obtained at Ithaca. But the results show that the hairy vetch will make a very valuable crop to follow an early sown crop of the cow pea, and thus to keep up the nitrogen gathering for the following spring crop. One prominent farmer in Maryland, who was warned that the vetch might become a weed on his land, replied that he found that it nearly doubled his corn crop, and that any weed that would do that was welcome to a place on his farm. We refer to this matter just now more for the purpose of suggesting to those who have a good stand of the vetch that with the present high price for the seed of $7 to $9 per bushel, it may be well to grow the crop for seed. Then, too, we have found that the advice given in the seed catalogues to sow a bushel of seed per acre, is entirely needless. We have had a fine stand of this vetch from sowing 16 pounds per acre, and believe that where the soil is properly inoculated this will be enough. To inoculate the soil all that is needed is to scatter a few bushels of soil from an old garden where English peas have been long grown, over the vetch plantation. We had this vetch with three feet of top last February, in old garden soil, and loaded with nitrogen nodules on its roots. For a winter cover it should be sown in late August, though we have had a good stand in spring from that sown in October, but it made little show in the following winter.

◆

Telling the Truth.

The Country Gentleman, quoting our editorial in regard to poisonous butter colors, says that it is "an editorial which not one farm paper in a dozen, and not a single dairy paper in all the country, would dare to publish." We are glad to have the approval of our contemporary for trying to tell the truth about the poison often sold as butter color. The trouble about a great many humbugs is that advertising contracts stop the papers from telling the truth about them. The P. F. aims to be the real friend of the farmer, and is not afraid to defend his interests, and to tell the truth in regard to those who would defraud him. We have been with the Country Gentleman in the fight against spurious butter, and our New York contemporary can rely on the P. F. backing it up in every fight against those who would load the farming community with taxes for the benefit of terminal cities only. If there is any one class above all others of the papers of the land which should tell the truth, that class is the farm papers. They are not in politics, have no schemes to carry through for personal aggrandizement, and they should be the great bulwark between the farmer and the hordes that would prey upon him. This is one thing which the P. F. is trying to do.

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Underground Silos.

The Rural New Yorker quotes from a bulletin of the Hawkesbury Agricultural College in Australia an account of their underground silos, which cost $10 per ton capacity, and the account closes with the statement that while these pits are strong and lasting, they have proved not to be the best, although the most expensive. This reminds us of our experience with underground silos. We had three, each 16x32x24 feet deep. Of the depth of 24 feet 6 feet were above ground, and the pits were walled with Portland cement grouting and brick above ground, a brick building being built over all three, in which the cutting machinery stood, the silage being stored through hatchways in the floor, and the cutting machine moved over each by lengthening or shortening the belt from the driving shaft. It was rapid filling these pits. But of all the slow and tedious and exasperating jobs, the hoisting of it out was the worst. These silos (we hasten to say that we had nothing to do with the building of them) cost fully as much as the Australian ones, and were poorer for their purpose than the modern round silos above ground costing a dollar or less per ton capacity. But like all new processes, the making of ensilage had to pass through the evolutionary process. Pits were the rule in the first days of silage storing. We knew one man who lowered a mule into his pit to tramp the silage tight, and the mule had to keep tramping until he tramped himself to the top. The underground silos from the constant condensation of moisture on the cold walls always had a line of rotted silage around the walls and in the corners, and as the Australian folks say, they were very expensive and not the best by any means. We have learned better long ago, and the Australians are going through the same process. Many years ago a neighbor who had one of these big pits abandoned it and thought to improve by building an expensive stone walled silo above ground. But he still held to the old notion that we must put a great pile of rocks on the silage after covering it with boards, and he piled the rocks on in his new stone silo until it burst wide open. Then he came over to our place and was very much astonished to find that we had abandoned board cover and rocks too. Those who imagine that we are not advancing in agriculture need only to look back over the history of silo construction and management.

◆

How Shall We Control Corporate Monopolies.

Sometimes the boycott has been used successfully, as in the case of the Bagging Trust, which the cotton farmers downed years ago by stopping the use of their goods and contriving all sorts of covers for their bales without using the jute bagging of the trust. Sometimes by public competition as in the case of the Binder Twine Trust when the farmers of Kansas had their State Penitentiary go into the manufacture of the twine. No one can reasonably object to great combinations of capital for business purposes so long as they do a legitimate business and do not endeavor to kill off competition and establish a monopoly. Great companies are the natural result of business energy, but when a great company uses unfair means to stifle competitors and to monopolize to itself all the trade in a particular product, like the Standard Oil Trust and the American Tobacco Company, it becomes an engine of oppression and illegitimate, and should be checked. In an article in the Arena, Chief Justice Clark of the North Carolina Supreme Court says: "By a federal tax of ten per cent. upon State banks of issue—a perfectly legitimate business—they were totally destroyed. Certainly the same means can be used to destroy the trusts, which are illegal. A small franchise tax could be levied on the smaller corporations, increasing in per cent., according to increase in the size of the corporation—in short, a progressive or graduated franchise tax." It looks as though this would operate to check the choking off of competition, and would give the smaller companies an advantage over the great combinations which have been following the practice of killing competition through favors from the railroads and in other ways. But in a country where the people are nominally the power, it is simply a question as to how long the people will submit to the domination of the trusts. Last year, when there was a competition between the Imperial Company of London and the American Tobacco Company the farmers got good prices for their crop. Now when these companies have merged their interests they are paying the farmers less than the cost of production and endeavoring to recoup what they spent last year, while still getting full or better prices for their manufactured products. Judge Clark suggests that when a combination puts down the price of their goods for the purpose of freezing out a competitor and the fact was proved to a jury it would be a good thing to enjoin them from again advancing the price. There are plenty of laws against trusts, but the difficulty is in getting courts that will enforce them, as the trusts seem to have control of these.

The Cream of the Bulletins.

U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 170. Principles of Horse Feeding. By C. H. Langworthy, Ph.D.

The introduction states that this bulletin is an attempt to bring together some of the more important results and deductions which may be gathered from the American and foreign experimental work of recent years. Not to lay down formulas for feeding but to summarize matter which seems interesting and valuable, and which in many cases may give the reason for something of which the wisdom has long been recognized in practice. Opinions may vary as to the value of this food or that, but it is evident that the actual food requirements of a horse performing a given amount of work cannot vary as the result of a change of opinion on the feeder's part. The real problem is to supply sufficient nutritive material for building and repairing the body and furnishing it with the energy necessary for performing work, whether it be that which goes on inside the body, such as the beating of the heart and respiration, or the work that is performed outside the body as in hauling a load. The problem of feeding a horse differs from that of other domestic animals, where the object is merely to fatten and gain weight, or, as in the case of the dairy cow, to induce a particular bodily secretion to be exerted in an abnormal manner. Horses are fed almost universally as beasts of burden. The bulletin goes on to describe at length and to explain the meaning of terms used, such as protein, fat and carbohydrates. The chemical composition of a food furnishes a basis for judging of its value for building and repairing body tissue. The composition of feeding stuffs is then taken up and a full table given showing the percentages of water, protein, fat and other matters contained in various green fodders, silage, hay, roots, grains and sundry by-products from the manufacture of grain into flour and other products. This table will form a valuable matter of reference to anyone who wishes a knowledge of the composition of the foods he is using. The next chapter is devoted to the comparative value of the different feeding stuffs. Oats are a favorite food for horses, and some have supposed that they contain a special stimulating substance. But the most careful chemical study has failed to reveal any such substance. But it has been found that the fat of oats straw and oats is more completely digested than that of other cereals. Indian corn has been found a safe and satisfactory food for horses in this country, but there is a strong prejudice against it in other countries, which experiments have shown to be unfounded. Feeding trials at different Stations are discussed, and the use of legume feeds, such as beans and peas, and of oil meal and cake and gluten materials are fully considered. Then there is a chapter on forage crops, fresh and cured, in which Station results are again quoted. Roots and tubers form the subject of the following chapter, in which the feeding of roots and tubers like the potato is treated of. The feeding of molasses and other by-products of sugar manufacture is well considered. Injurious feeding stuffs form the subject of a chapter in which not only poisonous plants are treated of, but damaged and mouldy feed is shown to be dangerous, especially in warm climates. The North Dakota Station found that long-continued feeding of millet hay caused lameness and symptoms of poisoning, and the presence of ergot in grain causes rheumatism. The leaves of sorghum and Kaffir corn have prussic acid in them in minute quantities, which only becomes dangerous when the plant is arrested by dry weather at certain stages of growth. The bright sunlight in the arid region causes the poison to be developed to excess. Whether foods should be cooked or raw, dry or soaked, ground or unground, and whether fodder should be cut or uncut are all fully treated. The important matter of watering horses is also well discussed, as well as the digestibility of foods and the digesting capacity of the horse as compared with other animals. Feeding rations and a table of rations for horses in various kinds of work are the most practically useful part of the bulletin. The method of calculating rations is given plainly. Most of the directions given are the results of European experiments and additional experiments are much needed which will result in a series of standards suited to American conditions. We have hastily summarized this bulletin, not entering into detail, because any farmer interested in the subject, and what farmer is not, can get a copy of the bulletin by writing to the Secretary of Agriculture, Washington, D. C., and asking that it be sent to him.

◆

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CONTENTS

AGRICULTURAL.—The Construction of Manure Shed and Tool House Explained.—From City to Farm.—Health Hints.—Don't Spend Your Capital. 289
Going West.—Where and When.—A Long Time Experience with Clover. 290
QUERIES.—Shredding and Baling Stover.—Northern Seed Oats.—Feeding Value of Acorns. 291
LIVE STOCK AND DAIRY.—Stock Queries.—Brewers' Grain.—Raising Calves.—Balanced Ration. 292
VETERINARY.—Impaction.—Ringworm.—Chronic Indigestion. 292
Puffs on Hock.—Pawing in Stable.—Paralysis.—Loosened Teeth.—Periodic Ophthalmia.—Lymphangitis.—Tetanus. 293
GARDEN.—Talks on Timely Topics.—A New Potato Disease.—Current Comments.—Black Pepper Against Flea Beetles and Cabbage Worms.—Notes from a Carolina Garden. 294
HORTICULTURAL.—English Ivy for Graves.—Protecting Figs in Winter.—Horticultural Queries.—Plum Query.—Horticultural Notes. 295
POULTRY.—Seasonable Suggestions.—Some Hen House Points.—Linseed Meal for Poultry.—Queries Answered.—Caponizing Questions.—Pointed Poultry Paragraphs. 295
EDITORIAL.—Green Manuring.—Inoculating Alfalfa.—Winter Vetch as a Nitrogen Gatherer.—Telling the Truth.—Underground Silos.—How Shall We Control Corporate Monopolies? 296
CREAM OF THE BULLETINS. 296
COMMERCIAL. 297
HOME CIRCLE.—Editorial Chat.—A Chat with Fathers.—How Slowly We Learn. 298
Among the Flowers.—Some Practical Hints.—Correspondence. 299
OUR EXPERIENCE POOL.—Topic No. 597.—Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and With What Success? 300
SHORT CUTS BY P. F. SUBS.—Emergency Corn Knife.—Hen Roost Without Mites.—Fixing Mower.—Treble Crops in Family Garden.—To Remove Cheat and Cockle from Seed Wheat.—Grain Sacks.—Jellies.—Uses of Paraffine.—Covering Machine Seats in Hot Weather.—Fruit House Without Ice.—The Poor Man's Liniment. 301
MISTAKES, FAILURES AND SUCCESSES.—Stamping Grain Sacks.—Remedy for Gapes.—Gizzard and Stomach.—Chow Chow.—Failure with Rhubarb.—Salting Hay.—Uses of Suet.—Drying Oven.—Clubs.—Exposure and Ill Health.—Use all the Apples.—The Potato Beetle.—Defective Breeding Stock.—Failure of Oats.—Sewing Carpet Rags. 302
POSTAL CARD CORRESPONDENCE. 304

Exchange and Profit

If our friends will look around them, over the farm and house, they will doubtless discover a good many things they do not want, but which other people do. Why not offer them for exchange through the Barter Column of the P. F.? If you want help, or want to hire out, or sell your farm, or exchange anything you don't want for something you do want, then an ad. in our

Barter Column

would probably accomplish your purpose. The charge is only one cent per word each publication, less than the cost of composition, no ads. of less than 25 words or more than 10 lines being admitted, and only when sent by a P. F. subscriber.

THE FARMER CO.,
Market & 18th Sts., Philadelphia.

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

October 31, 1903.

Lower Western advices on wheat had little effect upon this market, which ruled steady under light offerings. Cables were unsatisfactory and export demand was light. Corn was in little demand for either local consumption or export, but offerings were light and prices ruled steady. The oat market was also quiet. Choice fat dressed fowls were in fair demand and receipts of this description were promptly cleaned up at outside rates. Dressed chickens were plentiful and dull, but fancy yellow stock was in fair demand and prices were quiet. Buyers were showing more interest in live poultry and supplies were being gradually cleaned up at slightly firmer prices. Western creamery butter was firm under light receipts and a good demand for fine qualities. A good deal of the receipts showed faulty quality, and this class of stock was hard to move except at buyers' prices. Imitation creameries and ladles were in ample supply. The demand for fancy prints was firm, with supplies well cleaned up. Undergrade prints were dull and irregular. Receipts of fine fresh eggs were light and transactions were mostly in small lots at a premium over quotations. Buyers were giving increased attention to refrigerator eggs and prices were a shade firmer on choice stock. The market for cheese ruled steady with a rather better demand, though buyers were not operating in excess of current wants and offerings were ample. The market for green fruits was in good shape and firm for all good offerings, receipts of which were kept well cleaned up. Receipts of white potatoes were moderate and the market was a shade higher, with a good demand. Sweet potatoes were quiet and unchanged with ample offerings. Onions and cabbage were weak under free offerings. The market for dried beans was weak under liberal offerings and a light demand. Desirable grades of hay were well cleaned up and prices ruled steady. Straw was scarce and firm. Feed was quiet but steady. Cotton in light request, but steady.

WHEAT.—

No. 2, red, spot and Oct	83½	@	84
No. 2, Penna. and Del	84½	@	85
No. 3, red	78½	@	79

CORN.—

No. 2, spot	49½	@	49¾
No. 2, yellow	53	@	53½
No. 3	47½	@	47¾

OATS.—

No. 2, white natural	42	@	42½
No. 2, white clipped	43	@	43½

LIVE POULTRY.—

Fowls, hens, per lb	11	@	11½
Roosters, per lb.	8		
Spring chickens, per lb	10½	@	11
Ducks, per lb.	12	@	12½
Turkeys, per lb.	12	@	14

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb	13		
Fowls, average, per lb	12		
Old roosters, per lb.	9		
Chickens, nearby, per lb	13	@	14
Illinois, d. p., fancy, lb	13	@	13½
Western, d. p., fancy, lb	12½		
Spring turkeys, fancy, lb	17	@	18

BUTTER.—

West. cream'y 1sts to extra	21	@	22½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	21	@	23
Prints, Western	19	@	22½
Imitation creamery	16	@	18

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	30		
Western 1sts, free cases, L	28	@	28½
No. West., 1sts, free cases, L	29		
So. West., 1sts, free cases, L	27	@	28
So. choice, free cases, L	25	@	26
Refrigerator, firsts, M	21	@	21½

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—			
Choice and fancy	11¾	@	12
Fair to good	11	@	11½
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	12	@	13
Domestic Swiss, No. 2	10	@	11

GREEN FRUITS.—

Quinces, No. 1, per bbl	4.00	@	4.50
Quinces, No. 2, per bbl	3.00	@	3.50
Grapes—			
N. Y. Concord, 4-lb. bas	13½	@	14½
N. Y. Concord, per 100 lbs.	2.25	@	2.40
N. Y. Catawba, 4-lb. bas	12	@	15
Niagara, 4-lb. bas	17	@	19
California Tokay, per lb.	6	@	8
Cranberries—			
Cape Cod, large late, bbl.	7.50	@	8.50
Cape Cod, early Bl., bbl.	7.00	@	7.50
Cape Cod, early Bl., crate	2.50	@	2.75

APPLES AND PEARS.—

Apples—			
N. Y. fancy red, bbl	3.00	@	3.50
Kings, per bbl.	2.50	@	3.00
Pippins, per bbl	1.75	@	2.75
Greenings, per bbl.	1.75	@	2.25
Baldwins, per bbl.	1.75	@	2.25
20-ounce Pippin, per bbl	2.25	@	2.75
Pears—			
N. Y. Kiefer, per bbl	2.50	@	3.00
N. Y. Seckel, per bbl.	5.00	@	8.00
N. Y. Bartlett, per bbl	4.00	@	5.50
Duchess, per bbl.	3.50	@	4.00
Sheldon, per bbl.	4.00	@	4.50

POTATOES.—

White, Pa., choice, per bu	58	@	62
White, N. Y., choice, per bu.	55	@	60
Fair to good	50	@	53
Sweets, Jersey, prime, bas	30	@	40
Sweets, seconds, per bas	10	@	15

VEGETABLES.—

Onions, per bu.	40	@	55
Cabbage, N. Y., per ton	6.00	@	8.00
Cauliflower, L. I., per bbl	1.00	@	1.50
Cucumbers, Fla., per bu	1.50	@	2.00

BEANS AND PEAS.—

Beans, mar., H.P., 1902, bu.	2.75	@	2.90
do mediums, H.P., 1902	2.20		
Pea beans, H. P., 1902, bu	2.10	@	2.20
Imported pea beans, per bu.	2.00	@	2.10

COTTON.—

Cotton, per 100 lbs..........10.35

FEED.—

Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00

HAY AND STRAW.—

Timothy, No. 1, large	15.50	@	16.00
Timothy, No. 1, small	15.50		
Timothy, mixed	12.50	@	14.00
Clover, No. 1	12.00	@	12.50
Straw, straight rye	19.50	@	21.00
Oat	10.50	@	12.00
Wheat	10.50	@	12.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4¼	@	4½
Common steers	3¾	@	4

Veal calves active for best grades.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

Hogs active.

Fat hogs, Pa., Del. & Md	6½	@	7½
Fat hogs, Western	8	@	8¼

Sheep and lambs easier.

Sheep, extra	4	@	4¼
Sheep, good	3¾	@	4
Sheep, medium	3	@	3½
Sheep, common	2	@	2¾
Lambs	3½	@	5¾

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NEW YORK MARKET REVIEW.

October 31, 1903.

Wheat options were dull and easier, being affected by professional selling here, rather liberal Northwest receipts and good weather. Corn was easy and dull with the dealers bearish on good weather, free receipts and poor export demand. Oats were steady on lighter receipts. Hay and straw are firm in spite of recent free receipts, there being a good demand. Hops have ruled quiet and country advices are easier. There has been a better demand for fresh table grades of butter, and prices have advanced on lighter receipts. Renovated butter is selling a little freer, and factory and packing stock have eased off. The demand from home trade dealers for small cheese has been fair for small lots wanted for immediate consumption, but an almost entire absence of speculative demand. Supplies are liberal, the fall production having been unusually large, resulting in considerable going into storage. Large cheese is in light supply. Eggs have advanced in price and the market is active and strong on all choice to fancy qualities. Defective qualities are quiet and of irregular value. Refrigerator stock has been active and higher. Supplies of live poultry have been in excess of the demand, and while there has been a fair trade it has been impossible to clean out the stock. Considerable of the Western dressed poultry has been of an undesirable quality, and with a considerable accumulation the feeling is weak and unsettled. Good stock is in smaller supply with a better demand. Offerings of white potatoes are liberal, but with a fairly active demand. Onions of ordinary quality are plenty, and sales slow at irregular prices. Cabbage is in fair demand. Other vegetables fluctuating. Apples are in free supply, but with a fair demand prices have been pretty well sustained. Fancy grades are not in any surplus. Pears in moderate supply and good grades selling well. Grapes quite plenty but selling well within prices quoted.

WHEAT.—

No. 2, red	87⅝	@	87⅞
No. 1, No. Duluth, f. o. b.	91⅞		

CORN.—

No. 2, yellow	54½		
No. 2, white	51¾		

OATS.—

No. 2	42		
Standard white	43½		
Track white	41¼	@	45¼

HAY AND STRAW.—

Timothy, pr., l'rg bales, cwt.	92½	@	95
Timothy, No. 1	87½	@	90
Clover	60	@	65
Straw, long rye, per cwt	1.00	@	1.25

HOPS.—

New York State, 1903, lb	25	@	32
Pacific Coast, 1903, per lb	22	@	29
German, 1903, per lb	55	@	65

BUTTER.—

Extra creamery	22½		
Extra factory	15½	@	16
State dairy	15	@	20
Packing stock	14	@	15
Imitation	15	@	18

CHEESE.—

State, f. c., small, fancy	11¼	@	11½
Good to prime	10½	@	11
Large colored, fancy	11¼	@	11½
Light skims	7¾	@	9¼
Full skims	1½	@	2

EGGS.—

QUOTATIONS AT MARK.

Nearby fancy, selected	31	@	33
State & Pa., fancy	26	@	27
State & Pa., seconds	25		
Western extras	26		
Refrigerator	18	@	21½

LIVE POULTRY.—

Spring chickens, nearby, lb.	10		
Fowls, per lb.	10	@	11
Roosters, per lb.	6		
Turkeys, per lb.	12	@	13
Ducks, West., per pair	60	@	75
Geese, West., per pair	1.25	@	1.37

DRESSED POULTRY.—

Turkeys, spring, d. p., lb	15	@	18
Scalded, per lb.	12	@	16
Old, mixed, per lb.	16	@	17
Broilers—			
Phila., fancy, large, lb	20	@	22
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	11½		
West., d. p., av. best, lb	12		
Chickens, Phila. fancy, lb	18	@	19
State and Pa., fancy, lb.	14		
State and Pa., poor, lb	6	@	10
Spring ducks, L. I., per lb.	18		
Eastern, per lb.	18		
Jersey and Pa., per lb	16	@	17
Spring geese, Eastern, lb	17	@	18
Squabs, per doz.	1.75	@	3.50

APPLES AND PEARS.—

Apples—			
Ben Davis, per bbl	2.00	@	2.75
Spitzenberg, per bbl.	2.00	@	4.00
Crab, per bbl.	2.00	@	4.00
Greening, per bbl.	1.50	@	2.25
Tallman Sweet, per bbl	1.50	@	2.25
York Imperial, per bbl	2.00	@	3.00
Hubbardston, per bbl	1.50	@	2.50
Ordinary, all kinds, bbl	50	@	1.25
Pears—			
Common, per bbl.	1.50	@	2.50
Bartlett, State, per bbl	3.00	@	6.50
Buerre d'Anjou, per bbl	2.00	@	3.00
Louise Bonne, per bbl	2.00	@	3.00
Seckel, per bbl.	4.00	@	8.00

GREEN FRUIT.—

Grapes—			
N. Y., Niagara, 4-lb. bas	12	@	18
N. Y. Concord, 8-lb. bas	20	@	23
N. Y Catawba, 4-lb. bas	14	@	15
N. Y. Salem, per 4-lb. bas	13		
Up-river, carrier, Concord	90	@	1.00
Wine grapes, black, ton	50.00	@	55.00
Quinces, per bbl.	2.50	@	5.50
Cranberries—			
Cape Cod, bbl.	7.00	@	8.50
Cape Cod, crate	2.00	@	2.35
New Jersey, bbl.	6.50	@	7.00
New Jersey, crate	2.00	@	2.25

POTATOES.—

L. I., per bbl.	1.75	@	2.00
Jersey, per bbl.	1.62	@	1.87
N. Y. and Maine, per bag	1.65	@	1.75
Sweet potatoes, Jer., per bbl.	1.50	@	2.25
Southern, per bbl.	1.00	@	1.25

VEGETABLES.—

Brussels sprouts, per qt	8	@	12
Carrots, per bbl.	75	@	1.25
Cabbage, domestic, per ton.	9.00	@	15.00
Tomatoes, Jer. & Del., box	50	@	1.00
String Beans, Va., per bas.	50	@	1.50
Squash, Hubbard, per bbl	1.00	@	1.25
Cucumbers, per bbl.	2.00	@	5.00
Cucumber pickles, per 1,000	2.00	@	4.00
Cauliflower, per bbl.	50	@	1.75
Celery, fancy, per doz	15	@	40
Eggplants, per box	2.50	@	4.00
Lettuce, Boston, per doz	20	@	50
Lima beans, potato, per bag	1.50	@	2.00
Onions, white, per bbl	2.00	@	5.00
Red, per bbl.	1.50	@	2.00
Yellow, per bbl.	1.25	@	2.25
Peppers, per bbl.	75	@	1.50
Pumpkins, per bbl.	50	@	75
Parsnips, per bbl.	1.00	@	1.25
Spinach, per bbl.	75	@	1.00
Turnips, per bbl.	75	@	85

BEANS AND PEAS.—

Beans—			
Marrow, 1903, choice, bu.	2.90	@	2.95
Medium, 1903, choice, bu.	2.20		
Pea, 1903, choice, per bu.	2.15		
Lima, California	2.25		
Imported Giants	1.60	@	1.90
Green Peas—			
Scotch, 1903, bags, per bu.	1.30		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

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Gleanings in Bee Culture (semi-mo.)	2.00	1.40
Green's Fruit Grower, Rochester, N. Y.	1.50	1.15
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Ladies' World, New York City	1.40	1.15
McClure's Magazine, New York City	2.00	1.70
Munsey's Magazine, New York City	2.00	1.75
Poultry Success	1.50	1.15
Success, New York City	2.00	1.65
Woman's Home Companion	2.00	1.50

Send all subscriptions to
The Farmer Co., Market & 18th Sts., Phila.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

We clip the following editorial from the evening daily just laid on our desk a whole little sermon in itself, though not preached by a preacher:

DID HIS DUTY THAT'S ALL.

"'Never mind making me out a hero. I did my duty, that's all.' This was said by Luke Brannon, the Ohio deputy sheriff, who, single-handed, took the rope from a man's neck and rescued him from a mob. He had risked his own life to save that of a ruffian who unquestionably deserved death. It was his duty to do it, and he did it. There was nothing great about it in his mind.

"In taking the oath of office he had sworn to do his duty. That was what he was paid for. There was no romance in it. That is the way Luke Brannon looks at it. But history has given us a different estimate of heroism. All heroism that humanity has cared enough about to make a record of and remember has been nothing more nor less than duty. Every man has his particular part to play in this world's advancement. The men who have played their parts with exceptional completeness are the world's heroes. To do one's duty is to do enough to merit the stamp of greatness. Nobody ever got that stamp justly by any other method.

"Few of us really do our duty. When some man does his duty he becomes conspicuous. Of the thousands of officers of the law who have been called upon in this country in recent years to do their duty in the face of mobs precious few have done it. Luke Brannon did it, and we at once judge him a wonderful man. Luke Brannon objects to being made conspicuous in the eyes of the people of the whole country, modestly protesting that he simply did his duty.

"That is precisely the reason he ought to be held up as a model. The man who does his duty is the highest sample of true manhood. From him we have to learn the greatest lesson in life."

We like this sort of talk and that kind of doing. To our mind it is a pity that so few lives are what they might be. When one pauses to think of the grand possibilities in one human being his God-given power to make or mar his own life; his power to guide other lives into the way that leads upward or the way that leads downward; his ability to choose between life and death for time and eternity; when, we say, one takes all this into account, what a pity it is that there are so many wrecks strewn all along the way. This morning we heard of a man just a little way out of our town who, intoxicated, drowned in four inches of water. The account in the local paper read like this: "S—— was a man about 55 years of age and an habitual drunkard. He had been in a state of intoxication for several days and slept out most of the time. Beside the body when found was an empty bottle and it was supposed that in rolling about or attempting to rise he fell into the water and was unable to help himself."

Think of that for an obituary!

Born, lived and died, and such an ending!

If we were going to preach a sermon to young men we would say, live for something. Don't be a failure or worse. You have within your grasp powers and possibilities for which angels sigh in vain. You can live a life which will prove a benediction, or you can live one that is a curse. You may be sure of one thing, you will make the world either better or worse; you can't be a cipher. It is not a very broad platform upon which a man stands when he declares that if he takes care of himself it is all he can do.

To earn one's bread and butter is all right, but "simply this and nothing more" is not worth while. The humblest, most obscure farmer may be kind to his family, his dumb beasts and the few neighbors with whom he comes in contact. You say, "O, all that amounts to nothing!" Not so, my friend; it amounts to a good deal in the sight of Jehovah. The other day we heard this remark of a friend of our youth: "You can judge for yourself what kind of a man he is; his hired man says that his horses fear him so that if he goes to their heads they start back in fear."

We said, "Impossible!" but the testimony was incontrovertible. Isn't this dreadful? Without hesitancy we say amen to the oft-repeated remark of an elderly man of much observation and experience:

"The man who is unkind to dumb creatures is a coward." And again: "No daughter of mine shall ever marry a man who abuses his team. He who is cruel and hard with a horse will be the same with his wife."

Pretty clear cut but unfortunately too true. Girls, find out by some "secret service" what kind of a man your lover is among his dumb creatures. Never mind how honeyed his words when with you. Courtship days will be past by and by; in a sense you will be his, and if he is a hard master now, he will be a harder one then. Even the touch on the rein tells much of a man's character.

Don't trust him whose horse fears him.

It is one of the sacred memories we cherish of the father who so long has slept in a soldier's grave, that at his whistle every dumb creature on the farm was ready to break bars or leap fences to get to him. They knew no blows, kicks or curses awaited them; only the loving hand that they delighted to have guide them. Fathers, did you ever abuse a dumb animal until your wife plead, "don't" or your little child cried? If you ever did you are a dishonored man by that much. You have given them a memory that will perhaps obtrude itself between their tear-dimmed eyes and your coffined face.

Men are anxious to have something to leave their children, but how few realize that money and lands are as nothing compared with the memory of a gentle, manly father. It were better to be a good husband, father, man, than to be a Rothschild or a king.

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A Chat with Fathers.

AUNT NELL.

Not long since we heard a bright young lady say: "I do not feel acquainted with my father at all. He comes into the house and sits down and says nothing. Mamma and we girls have good times together, but he won't take any interest." Later she remarked: "O, I know he loves us, but never shows it."

Now, I know a great many fathers whose children could truly say the same of them. Think of it, fathers, your own wife and children not acquainted with you!

It is a great grief to many a loving girl to find that her husband is a different man from her lover. The latter was always attentive, considerate, anxious for her society and pleasant. At the fireside he once painted in such glowing colors he is indifferent, cold if not absolutely cross. As the years go by he grows more indifferent, and by and by she and the children that have come to them are almost afraid of him. They keep all their laughter and good times to themselves. His presence is a restraint. They are glad when he goes out of the house, sorry when he comes in. The man who exchanges the very closest friendship of his family for wealth, fame, natural irritability or even necessary financial worry, is making a great mistake. There is nothing in the world that can atone for broken family ties or substitute for the warm love that knows expression. This is it: The love that knows expression. Give it to us and take all else in life if you must. And don't keep the expression in check until too late; pour it out while it can warm and gladden. You know how the great Carlyle froze and snubbed his faithful, loving wife until she died. Then he read her diary and his eyes were opened. With all his soul he repented him, but it was too late—too late.

There is nothing worth living for with love and appreciation denied, therefore the man who robs his family of these makes them miserable. Fathers, your children will love you if you will let them. You can be a companion and guide for them if you will.

Not long ago a girl said: "I am afraid that if my father treats my little brother as coolly as he always has his girls, that the boy will turn elsewhere for sympathy, and it will be the worse for him."

Said one man to another, in our hearing, pointing to a bright little lad belonging to the one: "If that child were mine I'd be a better man than you are."

Why, fathers, can't you see how important your place and how great your responsibility? If I were a man I would want my family to be glad when I came into the house and sorry when I went out. I would value the lighting up of my wife's face and the glad shouts of my children when my step sounded on the walk, more than I would value the wealth of a Vanderbilt. I would rather be a kind, loving husband and father than a king on a throne.

Wisconsin.

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How Slowly We Learn.

J. F. WILLIAMS.

The P. F. first fell into my hands as a result of a neighbor inducing my brother to take a 10-cent trial subscription. Neither of us got much of anything out of it for a long time. As I look back now, I wonder how all those things which afterward interested me so deeply and for which I eagerly opened the paper, and still open it each week, could possibly fail to interest me more then. Without discussing the philosophy of this, which I believe I partly, at least, understand, I take up later experiences. Although I dropped farming almost entirely I clung to the paper and read with varying interest the different departments. But it took so long to get me to see a thing clearly and make use of it in practice. Though arguing with others in favor of studying agriculture, I undertook my little garden exploits in the dark, so to speak, for I never gardened any as a boy or young man, and so lacked the commonest knowledge of many of the details. But when I got ready for work last spring I, at last, decided to get a book to help me out in regard to potatoes. This I read carefully, especially such as applied to me, and the result was undoubtedly a better crop of potatoes than I should have had without it, certainly the best I have ever grown. I digress enough to mention that those who attempted to hunt off the beetles this year found out what Mr. Terry said would happen—others come immediately from near-by neighbors. I almost decided, then, to get the A. B. C. of Strawberry Culture, and the "Garden Books," but finally neglected to do so. Later I had some cabbage and tomato plants expressed from a brother in the South, who told me just how to make and cover cold frame, etc. All went well until that dreadful cold northwest rain of nearly four days duration came on. My bed, which before had been too hot, got so much water on it that it never again warmed up, and about the end of the period I noticed that my finest plants (tomatoes) were turning black on the upper leaves. I didn't know whether they had been too cold or too dark or too light, as I had exposed them some to the sun, but "guessed" they would be improved by light and acted accordingly. They came through all right, but if I could have 'phoned Mr. Greiner for a book I would have it now.

My strawberries that I planted last year succeeded poorly, and I let the season for planting this year slip away, saying to myself that I'd get the book first, but neglected to do so. In truth, I wasn't so fully converted as I became after more deliberate thinking. Finally a neighbor offered me a swarm of bees, and although I remember perfectly how I used to ring them down with bells and pans, when a boy at home, I decided not to take them even as a gift without some previous knowledge of the business. The man himself, after making light of my book notions, subscribed for the P. F., and then after speaking slightingly of "A. B. C. of Potato Growing," has sent for a bee book; so the leaven works.

Before another season I shall provide myself with some kind of garden literature, and if I decide to take up fruit growing, will get books on the subject during the winter. Oh the waste this ignorance and stubbornness cause! How diligently we should strive to get others started in the right way. Only last night an intelligent young farmer, a licensed school teacher, said he wasn't going to plow his corn anymore until it rained. People look at me as if they think me crazy for trying to conserve moisture by keeping a dust mulch—watering my garden with a garden rake—and make all sorts of odd remarks as they pass. Did space permit I should like to mention some evolutions along other lines, but forbear except to say that it took many years before I decided to quit drinking coffee, to vote for national prohibition, to give up liberal meat eating, to join the church, and last, to give up all secret societies.

Shelby Co., Ill.

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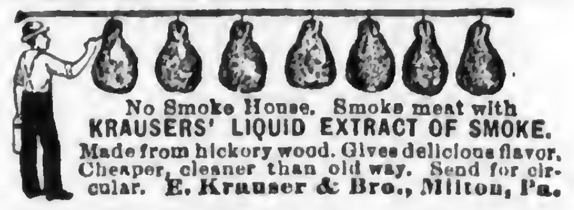

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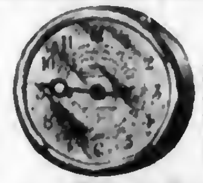

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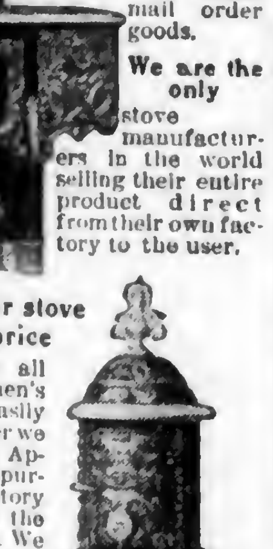

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the autumn's wild flowers I like the feathery plum-like blossom of the golden rod best. It looks so pretty as we drive along the roads nodding and swaying in the breezes, and when we think of it as the floral emblem of old Missouri, we feel more proud of it, and feel assured that it could with grace adorn the most beautiful flower garden. Let us hear from others about the floral emblems of their States. I think it would be interesting and instructive to all.

Among the Flowers.

ROSIE TULL.

The beauty of a giant cosmos plant—any color, but especially a pink one—when in bloom, is beyond the power of my pen to describe and do it justice. The plants grow quite large, five or six feet tall, often taller, and branching from within a few inches of the ground. When beholding a single plant growing alone, one often wonders, can it be possible that all of that top sprang from a single seed. The foliage of the cosmos greatly resembles that of the cypress vine, but is not so fine and delicate looking, and when almost covered with the dainty single flowers—as they are so late in the autumn—no wonder Jack Frost lingers awhile, almost entranced, before such charming beauty ere laying an icy finger thereon. The seed mature very quickly and are ripe within a few days after the blossom falls. Often seed of new varieties may be obtained from a bouquet given by a friend. When the flowers have withered, instead of throwing them away, lay the seed bolls on a table or any place in the shade where they will have plenty of air till well dried. Would you not be surprised if these seeds would grow? Just try them and see if you will not be surprised.

The cosmos is a very hardy annual, and does well in good garden soil. Plant seed in rows to a depth of about one-half inch; when large enough thin to required number, which must be few and far between, as the plants grow so large. The plants that are pulled out may be transplanted to new quarters if so desired, as they bear transplanting well, and when planted in good soil need but little attention except to keep the weeds pulled from among them while small. They are rapid, vigorous growers and are soon able to combat with even the weeds. The seed should be planted very early in the spring, or, better still, in the autumn, as the self-sown seed always produce the earliest plants, which grow to be the largest, and when the flowering season comes, of course produce more blossoms. We seldom plant seed, as there are always a great number of nice, thrifty plants to be had much earlier where the plants grew the previous year. As "the early bird catches the worm," so with flowers, the early sown ones give best results.

Our Oregon correspondent seems to think that his State made a mistake in the selection of its floral emblem. As we know nothing of the Oregon grape we cannot say, but who made the selection? In our State the school children selected the floral emblem, golden rod. I can but think they might have done worse had they gone further. The golden rod begins to bloom the first of August and remains in bloom until frost, and of all the autumn's wild flowers I like the feathery plum-like blossom of the golden rod best. It looks so pretty as we drive along the roads nodding and swaying in the breezes, and when we think of it as the floral emblem of old Missouri, we feel more proud of it, and feel assured that it could with grace adorn the most beautiful flower garden. Let us hear from others about the floral emblems of their States. I think it would be interesting and instructive to all.

Vernon Co., Mo.

[With this article Miss Tull finishes her floral talks; at least, her contract is at an end, but we shall hope to hear from her ofttimes. We would like four new flower cranks to come forward and engage for a dozen articles each. One year's subscription to each. And we would like to hear from all our flower lovers.—ED.]

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Some Practical Hints.

BEATRICE TURNER.

"A penny saved is a penny earned," and the old saying is nowhere truer than in the household and on the farm. The ladies can save quite an item by making their own clothes and trimming their hats. Good patterns of every description can be bought so reasonably that anyone with a little knack and a good sewing machine, can do their own dressmaking. You can experiment on some cheap calico goods at first, until you have gained a little experience. You can not only trim your own hats, but can make them if you wish. Frames, which come very cheap, can be covered with suitable material for either summer or winter. I have one I made from velveteen several winters ago. Every season it has a different trimming, and I feel as if I had a new hat. A friend said to me, "You must spend lots of money for hats; you have a new one so often," and was surprised when I told her its age. Another friend made a beautiful hat from light blue crepe paper. The paper was braided and sewed on a frame, and after being trimmed with a wreath of roses and buds was admired by everyone who saw it. I paint my own buggy, thereby saving another item. Of course I can't do an extra fine job, but it looks presentable when finished, and also keeps the tires in better condition; saves setting so often. When the men folks vests wear out and it is necessary to buy others to take their places, I take the back part of leg of old pants, which is usually good, and make a vest. Cut an exact pattern on paper from an old one, and with a piece of silesia for back, and flour sack for lining, you can easily make one. I made two during the last year and they did excellent service. Flour sacks, by taking the color out can be used for many things besides dish towels. Wash them, then place in pan with water to cover, add a handful of washing powder and boil until the color comes out. Be sure and put them in cold water, as hot water sets the color. I use to make common pillow cases, using two; also have bed spread made of nine sacks, which were joined together with crochet work made from the twine with which they were sewed. It is light, easy to wash and looks nice. The men folks can also take care of and repair their own tools, thereby saving large blacksmith bills. We have a shop and small blacksmith's outfit that cost $25, consisting of anvil, forge, drill and other necessary tools. Most of the repairing of tools necessary is done there and when anything breaks we don't have to stop work and go to town, which is several miles away, to have it repaired. My brother shoes all the horses, which is quite an item. On rainy days the men folks are always busy in the shop fixing up and repairing their farming tools, harness and anything that needs attention. We believe in practical things and to that end read the P. F., from which we obtain many new and valuable ideas worth many times the price of the paper.

Napa Co., Cal.

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Correspondence.

On the subject of horses S. E. Wolfe, South Coventry, Conn., has something to say: Have been on the farm over seven years; have the same pair of horses that I began with. They have never been out of condition, and never had any trouble in the spring, for in the whole time they never are without exercise. I find plenty of work for them. When they have light work in the winter, feed 2 quarts of grain morning, noon and night, and if they have a heavy job to do, do not feed heavily until after it is done and they are over the tired feeling. I consider one of the greatest helps to keeping a horse in good condition is a thorough grooming every morning, and this I insist upon. Of the two I would rather feed less grain. In the summer I give three to four quarts at a feed, and a change of feed; I always turn them out in pasture at night, for green grass, with good results. If they get hurt or strained, as they will do sometimes, perfect rest and not heavy feeding, clean stables, plenty of bedding and common sense treatment is all that is needed. Before I would have my horses stand in a barn all winter, I would buy a wood lot and keep them and a hired man at work. I let my horses out to cart ice, to draw lumber—anything to keep the team in shape, also to be able to keep a good hired man through the winter for the sake of having him the next summer. One thing that has much to do with the horses is the man you have around them. If they know more than he does their chances for good care are slim.

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A Good Investment.—The first natural impulse, after securing the fruits of toil, is to seek some safe, profitable investment for the same. The stock market with its manipulation and fluctuations, hardly tempts the provident, who see paper profits swept away, and the seeming rich reduced to poverty. A reliable banking house with fixed rules of business and an interest rate of four per cent.—the limit of absolute safety—carries conviction of security and profit to all classes of investors, the farmer, wage earner, business and professional man. Compounded twice a year, $4.04 is earned on every $100.00 invested; and proportionately on other sums. Your investment can be increased in any amount from $1.00 up, with the privilege of withdrawals at short notice. Your account, therefore, can be expanded or contracted at will, with no diminishment of earning capacity or depreciation in its value. Listed stocks, bonds and mortgages are inelastic and out of your control to their full extent. There is the added expense of commissions and transfer charges which reduce the interest of 4½ per cent. and 5 per cent. earned by such securities, and there is always a certain amount of anxiety and trouble in renewals and reinvestments. All this is lacking in an investment bank account. The banking by mail system which the Pittsburg Bank for Savings of Pittsburg originated seven or eight years ago makes it possible for every reader of this paper, no matter where they reside, to have an investment or savings account with this strong, old established institution, and banking can be done with the same ease and safety as residents of Pittsburg enjoy, all of which is explained in their new booklet mailed free with a souvenir of Pittsburg if you will mention the P. F.

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The "1900" BALL-BEARING Family Washer

Is absolutely indispensable in every home because it saves time, money and worry.

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Most Perfect, Simplest Washer Known.

No More Stooping, Rubbing or Boiling of Clothes.

DIFFERENT FROM ALL OTHERS.

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TWO DAYS' WORK IN FOUR HOURS.

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I received the washing machine in good order. I saved 3 weeks' washing to try it. Commenced washing at 7 o'clock and at 11 all the clothes were on the line. It would have taken two days to do this work the old way, and the washing was done clean. GREASY OVERALLS, which my husband uses in the Engine Room, could not have been done any better in a steam laundry. I would not part with the washer, if I could not get another like it, if I was offered $100.

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Enclosed please find P. O. order. My wife is very much pleased with the washer. This speaks volumes for it, owing to her being *prejudiced* against all washers. All who have seen it think it the best and easiest washing machine they have ever seen. C. WILLIAMS.

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Last week I started to wash with your "1900 Ball-Bearing Washer." A neighbor saw me wash my little boy's waists (which were terribly dirty) and in ten minutes I wrung them out, and we were very much surprised to see that there was not a spot left. On Monday we did a big wash of fifteen machinefuls of clothes in 4 hours. The lady living upstairs **has a Washer which she could never use, as it took a man to turn the machine.** The "1900" is by far the best machine I ever saw. It works so easily that my little boy can run it. You are at liberty to refer anybody to me for further proof.

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Twenty-five cents a bottle.

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"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 599, Nov. 21. *How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Care the Meat For Home Use?*

Topic No. 600, Nov. 28. *Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 601, Dec. 5. *Have You Tried an Ice House with Cold Storage Room? If so, Tell How You Built it.*

Topic No. 602, Dec. 12. *Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?*

Topic No. 603, Dec. 19. *Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26. *How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 605, Jan. 2. *Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 597.—Have You Tried Co-Operative Buying of Fertilizer Materials and Farm Supplies and With What Success?

Shellabarger Bros. About five years ago the farmers of this section organized a society called the Garland Farmers' Union. Organized for the betterment of the farmers of this community. We have regular meetings every two weeks and discuss timely topics of the farm, and every fall we appoint a committee to buy fertilizers for the society. This committee meets and studies the analysis of the different brands of fertilizers and gets prices from the local agents. We have found it entirely impossible to deal direct with the manufacturers. Then the brands that are selected by the committee that have the best analysis and which seem best adapted to our soil is purchased by the Union. We have members in our society who are graduates of our State Agricultural College and other persons who are wide awake that are placed on this committee. We always pay spot cash for the goods and this always gets us lowest prices. We sometimes use as much as three carloads and never less than one. Every year great efforts are made by the fertilizer agents to sell the Union their goods. Previous to the organizing of our society the farmers would take agents' word for the fertilizers, and enormous prices were paid for inferior goods, and, in fact, very few received value. We have also tried to buy binder twine, but were never able to get any better prices of the manufacturers, and they always referred us to their local agents.

S. L. Hallman, Collegeville, Pa.—We have a farmers' club of several hundred members, and have been quite successful in co-operative buying of fertilizers, both mixed and separate. This fall we ordered 300 tons, but found we had not enough, so ordered 24 tons more. The members meet and decide what analysis they want, and from what sources the different elements are derived, and then get different manufacturers to estimate what they can furnish as much as we think the members will need. The one bidding the lowest gets the contract. They must guarantee it to be as represented or have it returned at their expense. One spring the analysis was all right, but the mechanical condition was not all that could be desired, and they made a reduction in price that was very satisfactory. In this way we save from eight to ten dollars per ton. There are lots of fertilizer agents in this section who run around offering fertilizer on time, but it pays best to pay when you get it. We also buy raw material, but the farmers prefer the mixed article generally. We also buy all kinds of seed at a great saving. Last spring we got Canada field peas for $1.68 per bushel when all seedsmen were selling them for $2.50 and $2.75. So you see this is a great saving. We also buy all kinds of machinery and repairs, feed, fruit trees, posts and rails and coal. The dues are 50 cents per year, and meetings held every week. We have a large hall in which lectures and entertainments are held, and the Institutes also. The State officers say it is one of the best unions or clubs in the State. It is conducted on the same plan as the Grange, I think, though I never belonged to a Grange. We think it pays to have such a society.

SUMMARY.

We are sorry that we have but two papers this week which consider the topic asked. There are several others who discussed buying from mail houses as contrasted with buying from home merchants. But this is not the topic. We simply asked for experience in co-operative buying of fertilizers and farm supplies. Two of our friends have stuck to the text and have given us very good papers. There is always a great advantage in combining orders for such things as are needed, especially in the getting of fertilizers. Paying cash for a carload will always result in a great reduction in the price. One of our friends says that they have never been able to deal direct with the manufacturers. Of course, where a manufacturer has an agent established in your town he is bound to protect the agency. But there are plenty of first-class manufacturers who will deal direct with the consumers if the purchases are made in carloads and for cash. No one farmer can do this unless he is farming on a scale large enough to require carload lots. To get wholesale prices one must buy by the wholesale, and if buying by the wholesale for cash, he can get as low rates as any dealer. One of our friends seemed to think that the topic had reference to the partnership owning of farm implements, which is a very different thing, and a poor plan, we think, except where the machine is a very costly one, like a thresher, that each owner can use in turn without damage. But the owning of field implements by two farmers is the poorest sort of economy. We once attended an auction sale of the farm implements of a deceased farmer and the half interest in a cultivator for a single horse was put up. Just think of two men trying to cultivate a crop with one cultivator. Any tool used in the preparation of the soil or the cultivation of the crop would be just as bad to own in common.

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CATARRH CAN BE CURED.

Catarrh is a kindred ailment of consumption, long considered incurable; and yet there is one remedy that will positively cure catarrh in any of its stages. For many years this remedy was used by the late Dr. Stevens, a widely noted authority on all diseases of the throat and lungs. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all sufferers from Catarrh, Asthma, Consumption, and nervous diseases, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing, with stamp, naming this paper, W. A. Noyes, 847 Powers Block, Rochester, N. Y.

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Until December 1st, Dr. Hess (M.D., D.V.S.) will furnish every reader of this paper a letter of advice and a special stock prescription, free of charge. This information is free to users of Dr. Hess preparations at all times, but this month we offer it to those who have never used our goods as a means of demonstrating Dr. Hess' ability to formulate stock preparations. If you are in need of special veterinary advice, describe your difficulty fully in a letter to Dr. Hess & Clark, Ashland, Ohio, care of Information Bureau, and the letter of advice and prescription will be furnished you free, providing you state what stock you have (number of head of each kind), what stock food you have fed, and mention this paper. Enclose 2c stamp for reply.

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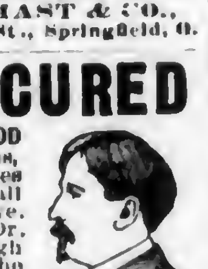

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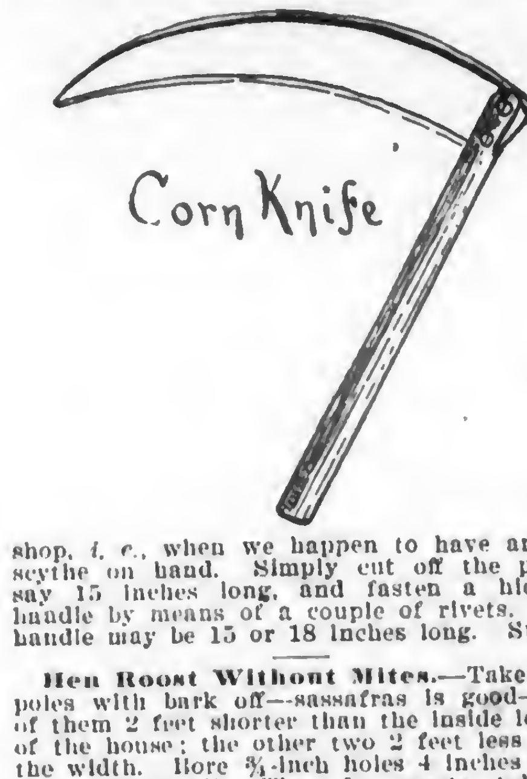
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Emergency Corn Knife.—Usually we prefer a good shop-made corn knife as kept by hardware dealers. But in an emergency, when it is not convenient to go to the store, or when an extra knife is wanted, we can make one in a short time in our own work shop, *i. e.*, when we happen to have an old scythe on hand. Simply cut off the point, say 15 inches long, and fasten a hickory handle by means of a couple of rivets. The handle may be 15 or 18 inches long. SUB.



Hen Roost Without Mites.—Take four poles with bark off—sassafras is good—two of them 2 feet shorter than the inside length of the house; the other two 2 feet less than the width. Bore ¾-inch holes 4 inches from the ends of all. Then for roosts, take as many poles as necessary—bark all off—and bore holes in them, same as others, and holes where they lie on the long poles. Make pins, carry all into the henhouse; put together, and hang to rafters with wire. If preferred, all can be tied together with wire instead of pinning together. J. W. SPARKMAN.
Middle Fork, Tenn.

Fixing Mower.—For broken track clearer or tail-piece of mowing machine, tie a smooth cord from back of seat to screw-hole in cutter shoe. In fact, for lighter grass it is better than the regular one, getting rid of weight at the right place.
Clovercliek, W. Va. JOHN LIGON.

Treble Crops in Family Garden.—About the 15th of August lay the land off in 3½-foot rows; put a good coat of chicken manure under it, list a light ridge over it, with a narrow plow. Now let it lie about a week or ten days, and run a small furrow in the ridge and stir the manure. About the 12th of September plant shallots; set one every ten inches. The kind we have are white and crisp. Cultivate once or twice and you will have good onions a long time before the other sorts come in. Before you harvest the onions run a very deep furrow in the middle; fill half full of stable manure, plant some early beans between the rows. When the beans are ready for work, harvest the onions. Give the beans one thorough cultivation and set out late cabbage plants between the rows, where the onions stood. You will harvest a good crop of cabbage, thus making a total of three crops from the same plat in practically one year. This short cut is extensively used around here, and I consider it a good one.
Gainesville, Ga. WATSON L. ROPER.

To Remove Cheat and Cockle from Seed Wheat.—Bryan Tyson gives this plan: Make a strong brine of water and salt. This will float cheat and a portion of the cockle. Then add molasses or sorghum syrup, stirring it well in so that the specific gravity of the brine will be increased sufficiently to float the remainder of the cockle. When the brine is made, it will be necessary to use a proper quantity of salt above the capacity of the water to dissolve. Then when the molasses or syrup is added, and additional quantity of salt will be dissolved, thus increasing the specific gravity of the liquid sufficiently to answer the desired purpose. The necessary quantity of molasses or syrup to be added can be ascertained by testing. A liquid prepared as above will float all the cheat and cockle and from 25 to 50 per cent. of the lighter grains of wheat. The skimmings should be immediately removed, and then the wheat that has settled to the bottom be taken out and washed with fresh water. Proper tests have shown that the germinating power of wheat thus treated will not be injured in the least. This plan will not only clean the wheat of all filth, but will also vastly improve the quality of the wheat by retaining the heavier grains only. E. H.

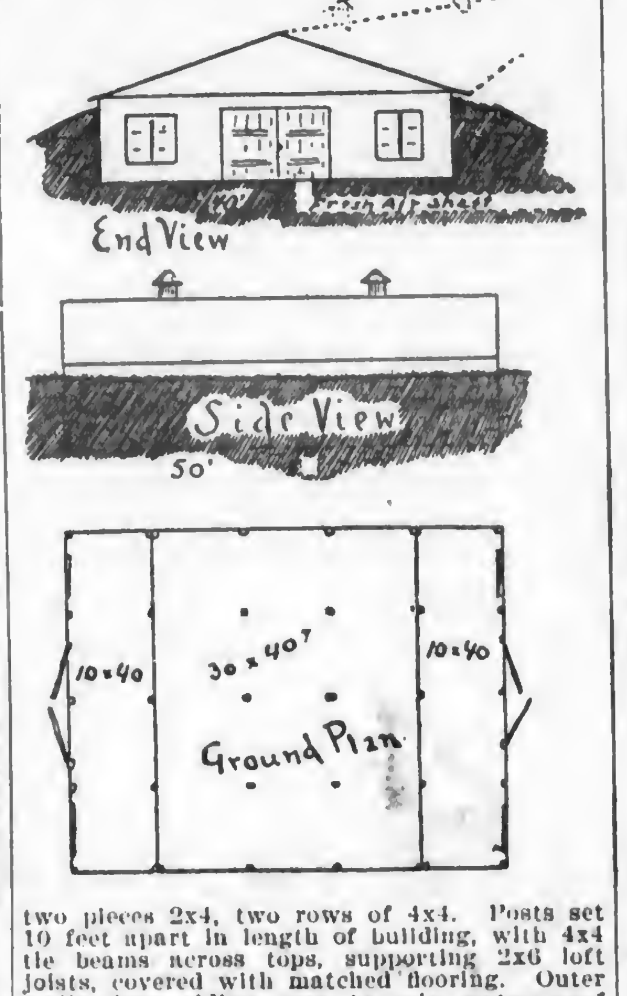
Grain Sacks make good kitchen towels. Open each side, hem all around, sew loops to each end to hang up by. These towels are inexpensive, easy to wash and wear much longer than crash.

Jellies.—When making apple jelly add one-fourth as many grapes as apples. The grapes give a good flavor and color. Nice jelly can be made from ripe elderberries by adding one-fourth amount of rhubarb.

Uses of Paraffine.—Paraffine is inexpensive and convenient for covering jellies. Pour a thin layer of melted paraffine over each glass of jelly when cold. When using jelly save paraffine for another time. When sealing bottles boil corks a short time, press into bottles and cover with melted paraffine.
Greenwood, N. Y. MRS. SPENCER HATCH.

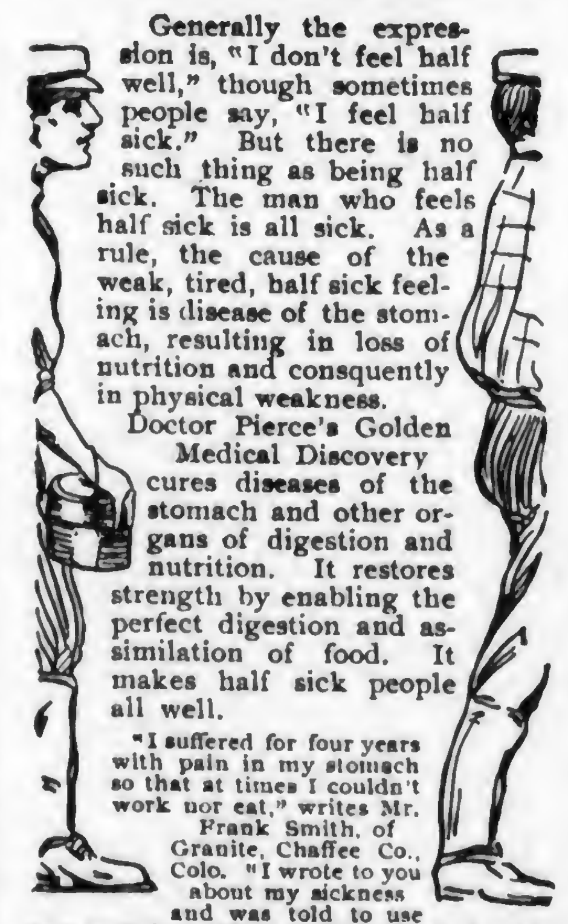
Covering Machine Seats in Hot Weather.—Fasten a piece of white cloth over the seat of mower, binder or any machine that you use in hot weather, and you will find that the seat will not be so uncomfortably hot when you return after being out of it for a while. The cloth can be laced or sewed on by passing the thread through the cloth and around the strips of iron between the holes which nearly all machine seats have. LEE A. WALTER.
Thermopolis, Wyo.

Fruit House Without Ice.—The fruit house illustrated, and description of which is taken from Am. Agriculturist, should be located on top of a knoll. Excavate 8 feet deep, and the size of room wanted with 10-foot ante-room at either end. A building 40x50 feet will store 1,000 barrels, and provide a packing room 10x40 feet at each end with a loft for empty crates. Details of construction are as follows: Sills 4x4 inches, well bedded; posts 4x4, set 10 feet apart in walls with four 2x4 studding between. Plate two pieces 2x4, two rows of 4x4. Posts set 10 feet apart in length of building, with 4x4 tie beams across tops, supporting 2x6 loft joists, covered with matched flooring. Outer walls drop siding over two-ply water-proof paper lining outside and matched boards over same lining inside, making air-tight joint between walls and loft floor. Rafters 2x4, 2 feet apart, extending 2 feet beyond walls and shingle or prepared roofing. 1x4 rafter braces. Two ventilator shafts 24x30 inches, with trap doors. Partitions 10 feet from each end of matched boards. Large doors in each end allow a wagon to be backed in for loading and unloading. Excavation is made 1 foot wider on each side than width of building and clay dampened and tramped down tight between earth and building. A fresh air tube 2x3 feet entering beneath floor and extending 30 feet or so under ground will cool entering air and assist in keeping up a circulation. Inlet and roof outlet should be screened to keep out insects, etc. H. E.



The Poor Man's Liniment.—Take one pint vinegar and add one-half cup of turpentine and mix well. To this add two well beaten eggs. Put in a bottle and shake thoroughly. In a day or two it will become thick, when it is ready for use. I have had it in my house for 15 years and would not do without it. It is good for burns, sore throat, spasms, etc. It will even cure a sweenied horse if taken in time. JOS. MARTINELLI.
Pope Valley, Cal.

HALF SICK



Generally the expression is, "I don't feel half well," though sometimes people say, "I feel half sick." But there is no such thing as being half sick. The man who feels half sick is all sick. As a rule, the cause of the weak, tired, half sick feeling is disease of the stomach, resulting in loss of nutrition and consquently in physical weakness.

Doctor Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It restores strength by enabling the perfect digestion and assimilation of food. It makes half sick people all well.

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$4.00 as here illustrated.

$3.20 is our price for a good stove with a 9¼-inch firepot. It is a much better stove than some firms sell at a higher price, but if you want the best send for our stove catalogue and read about our famous Home Oak stoves. The illustration shows our well known Home Oak stove; a very powerful heater made of No. 18 gauge cold rolled steel and finished with artistic nickel plated trimmings. It is 43 inches high, 9¾ inches round and weighs 63 pounds. $4.53 buys larger size weighing 75 lbs.

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Stamping Grain Sacks.—Take a piece of paper about a foot square and draw the initials or name in large characters near the centre of the sheet. Now take scissors and cut out the characters very carefully. Now pour some ink in a small bowl; take a common flour sifter and a shoe brush. Dip the brush lightly in the ink and shake off so it will not drip. Now with the brush rub through the flour sifter in a very fine mist, holding it about 6 inches above the paper or stencil. Continue the process until the letters are black, then remove paper carefully, dry off the ink it has caught and place it on another sack.

Remedy for Gapes.—I had gapes among my young chickens so bad one year that I was about to lose them all. Someone told me to give epsom salts, so I put it in their feed and drinking water and found it a perfect cure. An examination of their excretions would show the gape worms cut up and worked off by the salts, and the chicks became healthy and well.
Bandana, Ky. Mrs. Florence Matlack.

Gizzard and Stomach.—When there is distress after eating it is often relieved by eating a small piece of the lining of a chicken's gizzard. We always dry the linings of all the gizzards and put them into a tightly corked bottle. A friend who had great trouble with his stomach began to eat a small piece of the gizzard lining after each meal, and now he can eat almost anything without trouble. A piece one-third as large as a silver dime is sufficient. When tins become rusty, grease them and heat. When thoroughly heated rub with a newspaper and the rust will be removed. If the butter does not come when it ought, a pinch of soda will often bring good results.
Vernonia, Ore. Mrs. H. K. Shirk.

Chow Chow.—Try the following plan and you cannot fail: Half bushel of green tomatoes and 12 onions. Chop fine, sprinkle on a pint of salt and let stand over night. Now drain off the water, cover with vinegar and cook slowly until done; that is, until they are soft. Skim into a jar, add four pounds sugar, two tablespoonfuls cinnamon, one tablespoonful each of cloves, pepper and allspice, half cup mustard, one gallon of vinegar. Do not spend half a day chopping tomatoes, but put them through meat chopper, using coarse ring. A. W. Bowden.
Goodale's Corner, Me.

Failure with Rhubarb.—I had been told that rhubarb would not do well here, but was so anxious to have some that I determined to try it on a small scale. I am sure the plants were good, as I bought them from Wm. Henry Maule, paying 20 cents each for them. They were planted in a trench which was dug out two feet and filled with rich manure covered with earth. Our garden is sunny, so we stuck a lot of old barrel staves in around the plants to shade them. We watered them nearly every evening and they started to grow finely. When the plants were nicely grown we pulled some of the stalks to make a pie, and it was the only one we got. Before the summer was half gone the plants wilted down and never came up again. I would like to know whether it was pulling the stalks too soon or was it the hot summer that killed them?
Farmville, Va. Mrs. E. B. Langslow.

Salting Hay.—Somewhat over a year ago a correspondent gave his experience in salting new hay as it was drawn in from the field, stating that it caused the hay to spoil, and that some on which the salt was omitted was all right. Our experience the past year was directly the opposite. The spring of 1902 was very wet, causing a quick, sappy growth of grass. During haying we also had a great deal of rain and it was really an art to cure hay. We used salt on every load of our hay except two or three. The salted hay came out in splendid condition. Where no salt was used, however, it was dusty. Our hay was mostly red clover. The second growth was cut and treated in the same manner and this also was O. K. Judging from results obtained, we believe salting hay to be the thing and shall try it again this season. Another point is that our stock relished the salted hay better than the unsalted, although we have salt before them all the time. A. W. Summer.
R 6, Ann Arbor, Mich.

Uses of Suet.—I wonder if P. F. readers know that suet after it is tried out, is as good as lard for many purposes? It is more wholesome and is also cheaper. Half suet and half lard is nice for frying cakes. I sometimes use all suet, then heat the fried cakes in the oven just before serving, and they are very nice. Fish can be fried in suet until nearly done, then a little butter added. Gingerbread can be shortened with it. I make the bread as follows: One egg, one cup of molasses, half cup melted suet, heaping teaspoon ginger, teaspoon salt, two cups flour, one and a half teaspoons soda, one cup hot water. Mrs. J. C. Wheeler.
East Scott, N. Y.

Drying Oven.—If you are like many other farmers in that you like to dry fruit, you can do it easily provided you have the fruit and a gasoline or oil cook stove with an oven for it. You can make as many shelves as you like out of wooden frames covered with screen wire and on top of this a thin cloth. Our oven has four shelves in it. We set it on the back of the cook stove when we use it, or on our oil stove. We can dry nicely with oil or gasoline, as we have an even heat.

Clubs.—There are many kinds of clubs in this world, the wooden clubs being of least account unless used in self defense. In case of monthly, or even weekly papers, two or three neighbors can club together and take many of them as well as one person. Garden, flower and farm seeds can be bought in the same way, often at a considerable saving. Also farm machinery can sometimes be owned and used by a company of farmers to good advantage. D. S. Woodworth.
Shadeland, Pa.

Exposure and Ill Health.—Many farmers make quite a painful and costly mistake by trying to do too much at one time, many of them working in the rain and nearly all kinds of weather to accomplish a certain purpose. I consider this very wrong. I know several men, some of them my best friends, who have worked early and late in all kinds of weather, lifting things that were a severe strain, etc. They did these unwise things while yet young and just starting in farming, and they are now in bad health caused by exposure and overwork. It will pay anyone to be very careful how they expose themselves. We may gain a dime now, only to lose dollars in the future. W. C. Crook.
Middle Fork, Tenn.

Use all the Apples.—On many farms great quantities of apples (windfalls) go to waste on the ground where they fall. The rotten apples cause the ground to become sour, to the great injury of the grass. In the haste of farm work the fact is forgotten that pure cider vinegar is a scarce article and commands a good price. And again, apples are worth picking up to feed to hogs. It is surprising how quickly a lot of hogs will clean up a bushel of apples. Many times the hogs actually seem to crave them. Fed in moderate quantities in connection with grain will give the hogs a better appetite for more solid food and aid the digestion. There surely is a flesh forming substance in apples.
Lawson, Tenn. S. Hawk.

The Potato Beetle.—Until this season, this pest has not made much trouble for us since I can remember. But this season they were here looking for the young potatoes before they were up. I tried picking the old bugs by hand as suggested by Mr. Terry, but forgot that he said this would not do in town, and after trying it I can say that whatever it may do in the country, it certainly will not do in town. It seemed as if a score came to each dead bug's funeral. My next blunder was with liquid Paris green. I would have given at least five times the cost of the liquid if I could have known beforehand what I know now. It seemed almost worthless, still as the weather was showery I tried it nearly a week on half an acre of fine potatoes until many of the beetles actually grew fat and matured right under my eyes. A neighbor showed me how to mix the powdered Paris green and flour together so as to slay them by thousands. Further experience showed that a level teaspoonful of poison to one pint of flour is sufficient to do a good job and no doubt a more dilute preparation would do as well, but I wanted to be pretty certain of getting rid of them at once. The preparation can be applied with an ordinary revolving sieve, or through the perforated lid of a baking powder or other can. This may have appeared in the P. F. at some previous time, but if it did I failed to see it, and suffered accordingly. Rain doesn't seem to wash the poison off either, as plants my neighbor treated nearly a month before went through many showers and were still comparatively immune.
Findlay, Ill. J. F. Williams.

Defective Breeding Stock.—Mistakes in breeding are often made by farmers in this section of the country. Mares are bred after they become useless for work, regardless of hereditary diseases which may be transmitted to their offspring. It should be remembered that one of the characteristic laws of life is the reproduction in kind. Both parents should be selected with reference to their individual points of excellence, also that the points of one may be adapted to the points of the other, for although both may be excellent individuals in their way, the good points which characterize one may tend to counteract the good points of the other. If defects exist at all, the breeder should make sure that they are accidental and not hereditary. None but sound animals should be bred from, although accidents are not to be considered as unsoundness. If farmers would be more careful in regard to their breeding stock, they would not experience much trouble in making sales of the stock which they raise. On the other hand, well bred stock, let it be horses, cattle sheep or hogs, always bring good prices and do not require any more feed to make them ready for market than scrub stock.
Doudton, Ky. Harry Wallace.

Failure of Oats.—Last spring I sowed two and a half acres of fall oats for the purpose of getting into the seed, as I was told that winter oats sowed in the spring would do better than spring oats and not have cockle in it. In seeding to the oats I put on one hundred pounds of fertilizer to the acre. The result of it all is that I will not have as many oats off this ground as I sowed on it; in fact, they are hardly worth cutting. I intend sowing my oats in the fall this year. E. C. Lyon.
Dawn, Tenn.

Sewing Carpet Rags.—The following we have found to be a successful way of sewing rags for a rag carpet. First tear your rags into strips ready to be sewed together. Now take two rags and lay their ends together so that the end of one overlaps the end of the other. Place on your machine and sew across these ends. Now don't raise the foot of your machine, but fold the end of one of the rags back so the end will lie in front of the needle, alongside of seam already sewed. Now place the end of another rag on the end of the one that is folded back, and sew on across them. Fold back again, place another end to this one and sew across, and so on until you have a large bunch sewed; then take them off the machine and with a knife cut the thread between rags, and your rags will be ready to wind on a ball. This is a rapid and easy way for those who have a sewing machine. J. Crownover.
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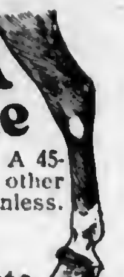

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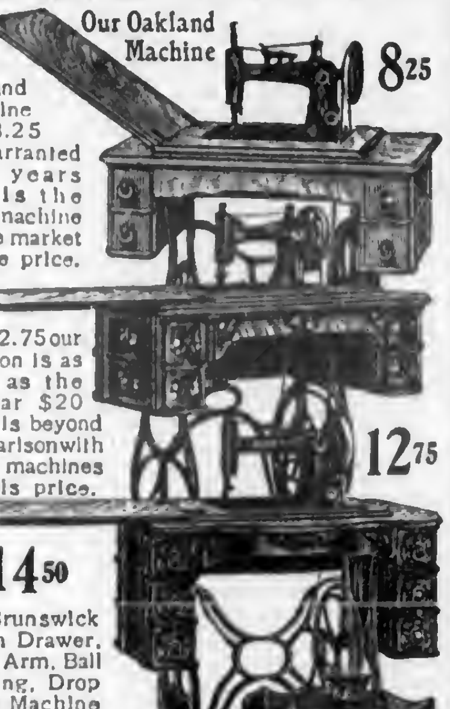

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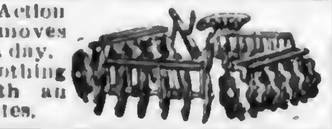

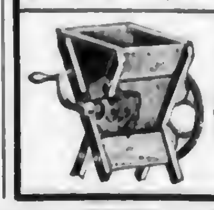

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Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Clover Seed Wanted. Send sample and price. Clymer Fletcher, Clearville, Pa.

One No. 1 National Cream Separator for sale cheap, or exchange for Saint Bernard pup, or I would like to buy a pup. S. S. Hoffman, Scalp Level, Pa.

Wanted. An experienced dairyman to work my farm on shares. Near Cayuga Lake, two miles from milk station. Jas. Wyckoff, Farmer, Seneca Co., N. Y.

Sale or Offers. Oxford-down ram lamb; big, strong and healthy; bred from imported stock. Exchange for shot gun. H. N. Musser, Route 5, Wooster, Ohio.

For Sale or Exchange. 30 Rose Comb Brown Leghorn cockerels. Thoroughbreds. Best laying strain. Scored by Helmlich. C. S. Norton, R 4, Jacksonville, Ill.

For Sale or Exchange. Single comb white Leghorns. Pure Van Dreser strain, not in-bred. Bargains before going into winter quarters. E. A. Andrews, Granville Center, Pa.

Pure and grade Cleveland Bays, registered Poland-Chinas, Barred Rocks, exchanged for registered Angora goats, Southdowns or cash. Quality expected. G. G. Sumner, Stevensville, Pa.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. Arndt, Hardy, Ark.

For Sale or Exchange. Hand feed cutter. Good as new and guaranteed to be as good as can be had. Very low for cash, or will exchange for Barred Rock roosters. H. E. Tweed, Ripley, O.

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For a Bargain. A 25 ft. brooder, used 2 seasons; 1 Von Culin Incubator (200 eggs size); "Globe" Brooder (100 ch. size); Dandy Bone Cutter, new, hand-power (100 lbs.). Want corn and cob mill. C. R. Bashore, Bethel, Berks Co., Pa.

Farm for Sale. 75 acres, ¾ mile from a thrifty growing town with railroad and water facilities. 9-room dwelling. Fine shade and good water. Apple orchard 80 trees, peach orchard 200 trees. Pears, plums, chestnuts, grapes, filberts, etc. Especially adapted to truck and berries. Constantly running stream of water 250 yards from barn. Could be made an ideal fish pond. Price $3,000. Easy payments. Silas Sparklin, Federalsburg, Md.

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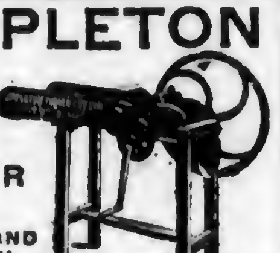

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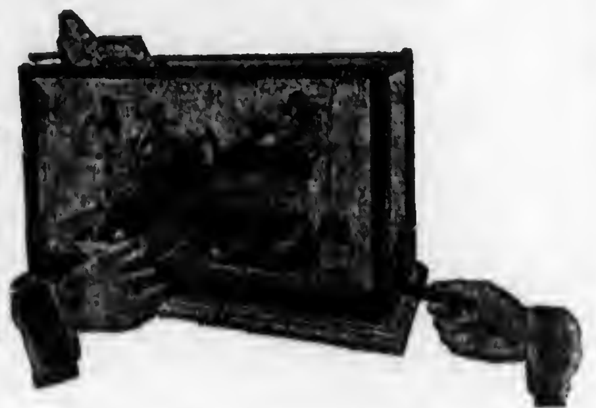

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The machine sells and delivers cigars from the original package, thus complying with the strict U. S. revenue laws. The customer drops a coin in the slot, and immediately has delivered to him the brand he wishes. The device is so simple and so perfect that competition is impossible. It is apparent to any one that these machines can be located in innumerable places, such as lodge rooms, restaurants, barber shops, waiting rooms, hotels, smoking cars, etc. The first machine was manufactured only a few months ago, and yet hundreds are in daily use, and the company could put out a hundred times as many as can be manufactured with the present facilities. And that brings us to the story we want to tell you.

We manufacture these machines, but we do not sell them; we lease them for $15.00 per year. It has been proven that the party leasing a machine will get his money back five times over every year. This being true, the demand for machines is simply enormous—much greater than we can at present supply, though we are doing all we can. With more capital, we could manufacture and put out 100,000 machines within a very short time. This means an income of $1,500,000. You doubtless know something of what other coin machines are doing—chewing gum, candy, etc.—and know that this is a conservative estimate. Besides the income derived from the rental of machines, there will be immense revenue from the sale of exclusive territorial rights, also profit on cigars, candy, and other articles that will be manufactured and sold by the company.

In order that we may derive the greatest benefit from this monopoly, and be the better enabled to supply the demand, we are going to offer a small block of preferred stock for sale at the nominal price of 25 cents per share, par value $1.00, fully paid and non-assessable.

This stock is a guaranteed 4 per cent. preferred stock. It is guaranteed a dividend of 4 per cent. out of the earnings of the company before any other dividend is paid. It then shares equally with the common stock in the remainder of the earnings. In short, the preferred stock gets 54 per cent. of the entire earnings.

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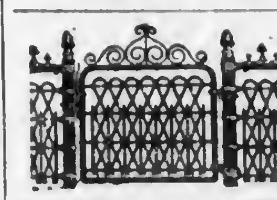

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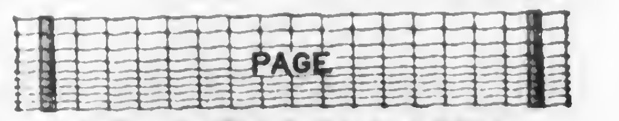

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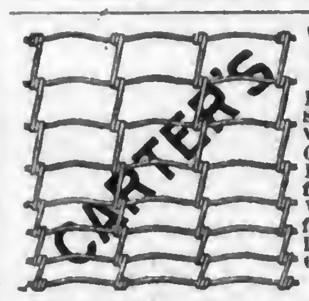

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Monroe Co., N. Y., 2 miles south of Lake Ontario. Weather has been quite dry; crops are looking fine; apples about one-half crop, bringing from $1.50 to $2 per barrel. Prices as follows: Wheat, 72c.; potatoes, 60c.; corn, 70c. per bu; hay, $12 to $14 per ton; eggs, 22c. per doz.; butter, 20c. per lb.; cows, from $30 to $50; horses, from $100 to $200 apiece. Farm help scarce. Bert Simmons.
Hamlin, N. Y., Oct. 27, 1903.

Located in the great Piedmont tobacco section, 30 miles from Winston, the great North Carolina tobacco market. We raise wheat, corn, oats and tobacco, with rye for cover crop and pasture. Have fine water and good health; land productive. We raise nearly all kinds of vegetables, potatoes, sweet and Irish; we have good vegetable markets and have demanded a good price. Good public high schools and churches convenient; free mail delivery. Farmers progressing finely with their work; crops nearly all gathered; wheat being sowed; put in in good condition. Success to the P. F. and its readers.
W. A. McCollum.
R. F. D., Madison, N. C., Oct. 24, 1903.

King Co., California, is situated in the San Joaquin Valley, 250 miles north of Los Angeles, and the same distance south of San Francisco. Land very fertile and produces all kinds of fruit adapted to this section, such as apricots, peaches, raisins, grapes, nectarines, pomegranates and all kinds of vegetables. Alfalfa is the only grass grown, and is cut from two to four times in one season, making from 1½ to 2 tons at a cutting. Irrigating in summer and from 5 to 8 inches of rain in winter, is our means of water supply. Dairying very profitable. Butter, 28 to 30c. per lb.; eggs, 35c. per doz.; hogs, $5 per cwt.; cattle, 4½c. per lb.; wheat, $1.50 per cwt.; hay, $5; cured apricots, $60; peaches, $100; raisins, $80 per ton. H. F. Bohns.
Guernsey, Cal., Oct. 21, 1903.

Fall has set in with its cloudy, gloomy weather of Michigan. It rained at one time for three weeks; the spring was wet and cold; crops almost a failure; potatoes have rotted badly before being dug; good climate for catarrh and consumption. Good many sales and farms to rent. Prices: Wheat, 76c.; oats, 31c.; corn, 62c.; rye, 48c.; buckwheat, $1; beans, $1.90; potatoes, 40c.; apples, 25c. per bu.; butter, 16c. per lb.; eggs, 22c. per doz.; horses are high; cattle, sheep and hogs a good price.
Mrs. Flora Miller.
R. 4, Chesaning, Mich., Oct. 26, 1903.

Located 4 miles east of Hanover, York Co., Pa. The weather is almost perfect for the healthy growth of the fall seeding and its effects are plainly visible, as the fields (although seeded later) are covered with grain for the winter. Corn is about all husked, but crop somewhat short. Fodder is in good condition and a good deal is beginning to be cut and shredded, and thereby more convenient to handle, and feeds much more stock. Fall pasture splendid. Good market for milk in Baltimore for shippers along W. M. R. R. Chestnuts, shellbarks and walnuts seem to be plentiful. Potatoes are not rotting any more, and higher in price, 60c. per bu.; butter, 20c. per lb.; eggs, 22c. per doz.; poultry, 9c.; pork, 7½c.; beef, from 4 to 4½c. for feeding; calves, 6½c. per lb.; cows and horses high, and young mules very high. H. R. Shutt.
Porters Sideling, Pa., Oct. 27, 1903.

Located in Barbour Co., on a farm within corporate limits of Louisville, a town of five or six hundred inhabitants. Principal products are corn, cotton, cane, potatoes and ground peas. Farm work progressing very well, except some trouble in getting cotton picked. Cotton crop not good; corn does very well; cane, potatoes and ground peas fairly good; corn about gathered; some syrup made. Prices of produce as follows: Corn, 80c.; ground peas, $1 per bu.; syrup, 20c.; fresh milk, 20c. per gal.; butter, 20c.; pork, 10c. per lb. Weather very favorable. Some attempts are being made to introduce free delivery. Farm labor, 60c. per day to $10 per month. Buford Norton.
Louisville, Ala., Oct. 24, 1903.

Situated in southern part of Ohio Co., in fertile Green River bottom corn belt. Land is steadily increasing in value, and much building and general improvement in progress. Large coal and timber interests opening up. A dry fall, but crops good. Numerous unfailing springs. Good church and school facilities; one mile from town of Rochester. Hired hands scarce at $12 and $13 per month; women, $6. We like the P. F. very much. H. E. Brown.
Rochester, Ky., Oct. 27, 1903.

Central North Arkansas has had favorable weather. Corn is a good crop; cotton about three-quarters crop; picking is in good progress; sweet potatoes good; Irish potatoes fair, with some rot; cow peas good crop; sorghum extra good and fine quality, selling at 35c. per gal. Range for stock excellent, with cattle fat; hogs plentiful and doing splendidly on the best mast crop in years. First frost came about middle of October, doing slight damage. This is a newly developed section, with a railroad just completed to this point, but the country offers good possibilities to farmers, stockmen, horticulturists and poultry keepers. A. E. Page.
McPherson, Ark., Oct. 24, 1903.

Heavy rains of first part of month did much damage to roads, bridges and crops on low lands, much stock was drowned, water being highest in 40 years. The buckwheat crop almost a total failure, and of poor quality; oats are light in weight. This has been a season full of disappointments, outside of dairy lines, which have brought good returns. Prices for all kinds of produce rule high and help not plentiful.
G. H. Townsend.
West Berne, N. Y., Oct. 28, 1903.

We have been having very fine weather all this fall. It was rather dry until last week we had a 3-days rain, which ended on the 25th by a slight fall of sleet and snow, which is the earliest we ever saw snow in this section. The hog cholera has been playing havoc with the farmers; it has killed nearly all the hogs in this section. Crops: Corn best in three years; potatoes fine; peas only tolerable; sorghum average; beef cattle selling high; fat ones are worth 5c. on foot; poor ones 2½ to 3c. per lb., gross; eggs, 20c. per doz.; poultry high. Long live the P. F. and its noble corps.
N. D. De Vane.
Tomahawk, N. C., Oct. 26, 1903.

Located 4 miles southwest of Boonville. The principal crops are wheat, corn, hay and oats. Special crops, sweet potatoes and strawberries. The hay was very heavy, on account of wet spring. Had an ideal season for corn, and the crop will be abundant. Wheat was almost a failure, being ruined by the hard winter and injured by the rust. Plenty of fruit. Prices as follows: Wheat, 82c.; corn, 40c.; potatoes, 40c. per bu.; butter, 15c. per lb.; eggs, 18c. per doz.; lard, 10c.; chickens, 9c. per lb.; hogs, $5; cattle, $2 to $3 per cwt.; hay, $10; clover, $8 per ton. Rural routes and telephones are very common in this section. Success to P. F. and its readers. Mrs. G. N. Edwards.
R. 5, Boonville, Ind., Oct. 27, 1903.

Located in southeastern part of Monroe Co., Ill. Weather favorable for growing crops. Farmers all through sowing wheat; wheat coming up good; some damage reported by Hessian fly in early sowing. Some farmers trying commercial fertilizer this year for the first time in this locality. Pastures in good shape; no stock put up in winter quarters yet. New sown timothy looking well; potatoes all dug; reports show one-half crop. Farmers are forming unions in this locality under the name of Farmers' Social and Economic Union. A show of different farm products was given by W. E. Lohrberg at Red Bud, and there were very fine specimens of different crops, some people declaring it was not products of this locality, but all were. Prices as follows: Horses, $80 to $150; mules, $100 to $200; cows, $10 to $50 each; milk, 80c. to $1 per cwt.; butter, 15c. per lb.; eggs, 18c. per doz.; hogs, 5c., gross; lard, 8c.; bacon, 8c.; chickens, 9c.; old, 3 to 7c. per lb.; wheat, 80c.; corn, 50c. per bu.; clover, 45c. per cwt. Success to the P. F.
Lewis J. Gregson.
R. 2, Red Bud, Ill., Oct. 26, 1903.

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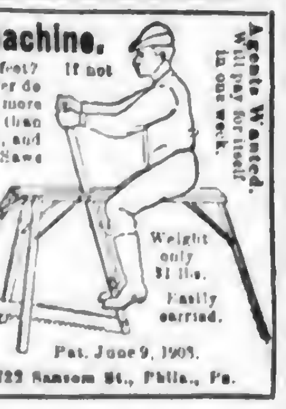

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Success on a Run-Down Kentucky Farm—Dehorning.

A letter from Mrs. Wm. Terry, Lakeland, Ky., is interesting reading. Her husband gave up business in the city some six years ago, much run down in health, and bought a small, badly worn farm. He was born and raised in the city, so he knew little, practically, about farming. A neighbor advised them to take a certain paper, and in it they saw an advertisement of the P. F. They subscribed for it at once and one result was that they began a regular rotation of crops. Mr. T. says now he is glad to acknowledge his indebtedness to this paper for help and encouragement. Mrs. T. pleasantly tells how they soon put every available spot in cow peas. The stock almost lived on them and so did they. Mr. T. got sick. The doctor said he had eaten too many cow peas. At that time they were the standing joke; now, nearly every neighbor raises cow peas. After a time they had increased the fertility of their soil so they actually had 30 bushels of wheat per acre. The past season was unfavorable, but they got 25 bushels of weighed grain per acre. Part of it was sold for seed at $1 per bushel, the rest brought 4 cents a bushel above the market price at the mill, and was said to be the best wheat that had been brought in. No fertilizer was used in growing this crop. Now notice, their neighbors raised from 10 to 20 bushels per acre. Mrs. T. writes further: "No one had a better clover crop this year than we, and we have a good stand for next year's cutting. We raised 40 barrels of commercial potatoes (seed originally from Mr. Wm. Henry Maule) per acre this year; neighbors, from old varieties, harvested from 10 to 20 barrels. We have built this year a barn 40x80, with a manure shed at one end. And the barn is well filled with hay. Those who used to scoff as they passed by have only praise now. Mr. T. has at all times worked his ground most thoroughly. Please give us your opinion as to whether we have done well. Again, we wish to turn our cows together in the manure shed during the winter, but find them very much disposed to hook one another. We want to know about dehorning. I insist that it is a cruel practice and will perhaps injure the cows and decrease the flow of milk for a long time. No one practices dehorning here, so we come to the P. F. for advice." Yes, my friends, you have done well. To raise about twice as much per acre as is commonly grown where you live, is praiseworthy indeed. And it is more so now you have learned the secret of doing it partly without paying out money for commercial fertilizers. Your success will do you good and be very valuable as an object lesson to others. We are glad to give an outline of it for the encouragement of many of our readers, both those who have poor health when shut up in town, and those who are trying to make a good living from unproductive land. Your prosperity is largely coming from a rotation of crops, growing clover and cow peas, and doing much work on your land in the way of tillage. These are all important matters that the P. F. has persistently urged people to attend to. With reasonably good management they will always be found helpful. Thousands of our readers could do substantially what you have, that is, double their crops, and at the same time not materially increase the cost of producing them. (You have only been six years doing this.) Oh, how much this will increase the net income. How much better homes they can have after a time. How many more of the comforts of life they can have. Dehorning is a common practice here. Our son's cows are dehorned. No one thinks of any danger, or its lessening the flow of milk to any extent. Of course it hurts the cow for a moment, no matter how well it may be done, but not enough so but what she will go right on eating again and scarcely show any shortage in the milk pail, even during the day after it takes place. It is cruel in the sense that it hurts momentarily and will be a little sore for some time afterwards. It is just the same when one has an aching tooth pulled. It is choosing the lesser of two evils in both cases. Cows are often injured far more by being hooked. Prevention is best for man and beast. Thousands of farmers have followed dehorning for many years. There is now no question about its being a humane and profitable practice, as a rule. Valuable and pure bred cows, however, would not look as well with their horns off, and looks helps about selling them, so in such a case they are often left on. I have heard of two or three cases where injury, even death, resulted from dehorning, usually where the job was not properly done. And so among humans, sickness and even death has come from having a tooth pulled, but such results are extremely rare. No one thinks of not having a bad tooth pulled on that account. Dehorning is probably the safer practice. When properly done the danger of trouble is so very small as to hardly be worth considering. Thank you for your kind words about the work the P. F. is doing. They encourage us.

Give Full Measure.—A certain farmer, who reads the P. F., has about 200 acres of land. In round numbers there are 90 acres of permanent pasture and about the same amount of "hay land." Now you know the farm is situated in New England. The place is spoken of locally as a milk farm. I am informed that the hay land grows a fine crop—of sorrel, and the pasture is exceedingly poor. A few cows are kept, after a fashion. Of course no money is made, not even a bare living. In fact, the mother has to keep boarders to save the family from the poorhouse. There are six children at home and a reliable friend vouches for it that they often have to go hungry. But it is hardly necessary to go on with further particulars. Most of you can think about what life is under such circumstances. I want today, however, to call particular attention to one matter. It is stated that this friend is losing even his small milk trade, slowly but surely, because he scrimps the measure. And how natural this is. He is hard up and needs badly every cent he can get, and it is so easy to try to make all the quarts he can out of the little milk he has. How few there are who would not feel like doing the same under the circumstances. It is hard for me to blame this friend, for I have been in just the same fix, years ago. Yes, I fear I could have been justly accused of scrimping the measure, sometimes. But, thank God, right came out ahead after a time. And now I want to most earnestly urge all friends to give liberal measure and in a broad sense, too. It pays. It holds trade. It draws new customers. In selling milk I would not only give full quarts, but try and improve the quality also, so it should be better than the average. People will soon find it out and stay by you, just as surely as they will desert a dealer that scrimps the measure. Instead of giving short measure to get more out of the milk, gradually adopt better methods and make more quarts. The one is the road to failure; the other to success. People will despise you for the first and respect you for the second. The one is wrong and not doing as you would be done by; the other right and honorable. This recalls a bit of experience. I had a lot of bushel boxes made once to market early potatoes in, partly. And they were made large enough so when level full they would usually hold at least a little over a bushel. Fifty boxfuls emptied on a wagon and weighed would usually over run from one to two bushels. A description of these boxes was published and the size given. As a result considerable space was taken up in the papers trying to show me that my boxes held more than a bushel. A well-known manufacturer is now making these boxes by the carload and smaller than I had them. I bought some once, but would not think of using them to sell in. While I was in the business I never lost customers, and I know that I gained some good ones by the liberal measure. And there was never a word of dispute after they had once tried my boxes. And there was a money value and a pleasure in this worth more than a few bushels of potatoes. If going into the potato business again I should get just as large boxes. If a milk man, my quart cup would hold just a little more than a quart. Of course honesty calls for just a quart, but it is good business policy to make it a trifle more. [You will notice that Mr. Terry fills his page a little more than full every time.—Ed.] At the largest and most successful grocery store, perhaps, in Cleveland, where we trade, I notice that they always throw in just a little more after the weight goes up. These men have built up an enormous business by giving plump measure of pure goods. I hope the dairyman mentioned above will at once arrange to give good, full measure, and that all the rest of our friends will do the same, whatever their line of business. Then let him gradually work into some of the improved methods that are told of in the P. F. from time to time. Better cows, better fed and cared for, will soon make more quarts and an improvement in quality. This will keep customers, draw others, in connection with liberal measure, and one can hold up his head, knowing that he is helping himself in a way that is right. Gradually the farm can be made to support the family better and the children need not lack for suitable food and clothing.

Health Hints.—How to Enjoy Old Age.—Last week you were urged to not work beyond your strength. To not get so exhausted that a night's rest would not make you as good as ever; to spend only your actual daily income of strength; to not draw on your capital in this line. I believe this was valuable advice. I am trying to live up to it. It isn't all a matter of living longer, but, what is more important, of having better health and enjoying life more, and of being more agreeable and of more use to others. It will require a little systematic care; that is all. It will soon become a habit to take care of yourself. It will cost you nothing, because in the long run you will accomplish as much or more. Now isn't this a sensible view of the matter? How many of you, dear friends, will govern your lives accordingly in the future? If you are young, so much the better. If you are along in years, all the more need of guarding your health. But now, do not infer that the less of your strength you use the better. No, that is about as bad as overdoing. One should not work to actual exhaustion, neither should he stop very much short of it, for the very best results. Use of muscles and brain is the law of life. And the more use, within the limit of our daily supply of strength, the better the health and the longer the life. This is a necessity, if one wishes to retard the coming of the infirmities of old age. Our farmer friends, as a rule, work hard enough. They need only to be cautioned against overworking. And this more particularly after they have reached the age of 50 or 60 years. They should continue to work then, but let younger hands do some of the heavier jobs. They should keep as busy as ever, but gradually arrange to have the work of a lighter and lighter character. And by all means use the brains as well as the muscles, so you can continue to have a sound mind as well as a sound body. A weakening of the brain power, loss of memory, etc., is almost a living death. It can be prevented to a considerable extent by proper use. The carpenter who helped me a month last summer is 73 years old. He is as spry as any boy and can do as much in a day as ever, except at heavy work. He lives two and a half miles away, but was here every morning by 6.20. One could set their clock by him. He told me he had thought of giving up work when he was 75. I urged him to not do it, but to keep right on, being a little more moderate and avoiding heavy work. The proper way would be for him to keep a young, strong man to work with him to do the lifting and straining work. I would give the same advice to farmers who are getting old. Some four years ago our family physician insisted that I must not go to any Institutes, and so did our folks and all our friends. But I took the bit in my teeth and went. They had little hope of seeing me come back alive. I went where I could stand what would be expected of me. I cut down on what would be required of my strength decidedly, but kept at my work. I came back better and am quite well and strong now. And now listen: Our good doctor told me the other day that

I was right in not dropping my work and to keep at it, only be careful to not overdo. I pass it on to all of you. I know it is right. I know it means longer life and more enjoyment while you do live, particularly the latter. What is longer life worth when one is made wretched by the infirmities of old age? Do not move to town, friends, when you are 50 or 60 years old, or 70, or as soon as you are financially able. The change to comparative idleness will soon make life more or less of a burden. It will surely hasten the infirmities of age. Keeping busy, daily, within your strength, will help retard them. Let up gradually, doing just what you safely can and hold your own, but do not stop. If you do not need to work longer, as far as income is concerned, work to help others, making your life a blessing to as many as you can. I have told you of one of my aged friends who has never stopped work and who is well and enjoys life. I could tell you of others about the same age who stopped work ten or fifteen years ago and who are far from being as well. They can talk about their infirmities by the hour. But they do not realize that they are simply reaping as they sowed; that their troubles could have been put off and almost prevented by an active, useful life, with due attention to moderation in all things. Suddenly quitting work will usually bring on old age troubles with a rush. A gradual letting up, but still always using mind and body, within your strength, breathing pure air night and day, and avoiding excesses of all kinds, will retard the coming of the infirmities of old age.

T. B. Terry.

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The Importance of Clean Seed and Sowing the Best Kernels.

J. W. INGHAM.

I am of the opinion that farmers generally in the United States do not take pains enough in selecting their seed grain, especially wheat. I don't know how it may be in other places, but in this part of Pennsylvania I am sure that most farmers sow wheat very far from being clean, although they have the means of cleaning it. As I owned and operated a grist mill at Sugar Run for many years, and ground the wheat of our customers, and bought all the wheat in the vicinity, I know that not one farmer in ten raised wheat clean enough for seed. I bought 150 bushels of wheat from a farmer who prided himself on raising better wheat than his neighbors. I agreed to pay him one dollar per bushel after it had been through the cleaning works of my mill, and he to have the cleanings. He assented very readily, because he thought there was scarcely any foul stuff in it to be taken out. After it had been cleaned and drawn out into the bags to be weighed, what was his astonishment and chagrin to see two bags full of chess, cockle and weed seed that had been taken out.

Once I raised a crop of Soule wheat, and an Irishman came inquiring for seed wheat. I told him I had some good milling wheat, but did not call it fit for seed, and intended to buy my own seed of a neighbor who had carefully picked all the foul stuff out of his field before harvest. After looking at my wheat, he said: "What's the matter with that? That's good enough. I'll take ten bushels." After the adopted citizen had gone a native American came on the same errand. I told him the same as I told the Irishman. He was a stammerer, and when he had looked at the wheat said: "I-I- guess that will do." I told both him and the Irishman there was a good fanning mill in my barn to the use of which they were welcome, but they thought the wheat was clean enough.

On the kind of seed we sow, depends, in a great measure, the quality and quantity of our crops and the amount of our profits, if any there be. No matter how good the soil may be, or how well prepared, if poor seed is sown poor grain will be raised. This was well understood in New Testament times: "Whatsoever a man soweth, that shall he also reap." If he sows tares, chess, charlock or cockle he must expect them to increase a hundred fold in his crop. If he sows seed of an inferior quality he will be quite sure to reap grain of inferior quality; he cannot expect to reap good grain. It is not only necessary to sow seed that is clean and possesses vitality, but it should be thoroughbred. We need thoroughbred seed as much as we need thoroughbred stock; and thoroughbred stock was obtained by selection of animals of the desirable species and breeding only from the best. That is the way the Collings improved the Shorthorns, the Tompkinses the Herefords and the Watsons the Aberdeen Angus. If it be said there is no analogy between the animal and vegetable kingdoms, the answer is that the history of agriculture from the earliest period shows that as great improvements have been made in the grains, grasses, vegetables, fruits and flowers, as have been made in the domestic animals. It is not only necessary to select the best and cleanest seed in order to obtain further improvement, but there must be constant selection in order to maintain its present excellence and prevent deterioration. No fact is better known to farmers, but how few are influenced to act upon their knowledge? How many sow inferior seed, full of foul stuff, and raise a light crop of inferior grain which can only be sold at a low price, and is a slow sale at that. Experiments have shown that shrunken grain will grow, but will not produce as large a yield as plump seed, and will tend to degeneration. My own experience with sowing shrunken wheat and sprouted wheat, is that the kernels do not all grow. The tendency of all varieties of wheat is to deteriorate or "run out," and the tendency in some varieties is greater than others, probably because their peculiar qualities have not become so firmly established. Science and reason assert that this need not be the case if the same conditions, and the same painstaking efforts that made them superior, are kept up. As the stock breeder can only maintain the excellence of his herd by breeding from the best, so the wheat farmer can only maintain the high quality of his wheat by careful selection of the best for seed. The best wheat is usually raised on small farms by farmers who take great pains in cleaning their seed. Mr. T. B. Terry even takes the trouble to handpick his seed after cleaning through a good fanning mill, and the result is he sells all he has to spare at a high price, for seed, and receives orders from several different States. One of our neighbors does the same thing, and it pays him "big." He can set his own price (anywhere within reasonable bounds) and readily sell his whole crop, except what he wants to keep for seed, without any advertising. Of course the great bonanza farmers, who are no farmers at all—only soil robbers—and whose operations are conducted on such an immense scale, cannot take this pains of selecting seed, and the consequence is their wheat is becoming very foul, and their land, from constant cropping, is becoming impoverished and full of weed seed. The selection of the best seed for sowing, or the rejection of the poorest, has always been the method of good farmers for improving grains. The careful selection of seed has been recommended from the earliest times. Columella, Celsus, Virgil and other ancient writers speak of it; and numerous successful experiments in modern times are recorded. Frederick Hallet, of Brighton, England, began an experiment with a single average head of wheat, chosen irrespective of size or vigor, from a common variety. The head was 4⅜ inches long and contained 47 grains, which were planted in rows 12 inches apart each way. At harvest the best head from the plant that had produced the most heads was selected, and sown the same as before. This plan was followed up in the same way year after year, choosing each time for seed the best head from the most prolific plant. At the end of the fourth year the best plant produced 52 heads, the best head being 8¾ inches long and containing 123 grains. This was the origin of the "Pedigree" wheat, famous for a time in England. In a similar way he made varieties of "Pedigree" oats and "Pedigree" barley. It was much in this same way that Mr. Fultz produced the excellent wheat which bears his name.

Prof. James Bachman experimented with the seeds of malformed and misshapen turnips and parsnips and found that the seeds of these malformed vegetables produced still greater deformities than the parents, and that the degenerate seed did not produce nearly so large a crop. New and valuable varieties of grains have been obtained by planting "sports," or plants differing from their fellows in size and vigor, and sometimes found growing in out of the way places. Darwin says that the Fenton wheat was found growing on a pile of detritus, or rubbish, in a quarry in England. The Clawson wheat originated from a stalk found growing by a stump in the State of New York. Change of seed, or using seed grown in some other locality, has sometimes been found an advantage to farmers; but as a general rule, the seed which has been grown in the locality for a number of years, and has done well, is the seed to sow, and should be kept up to its highest point of excellence by careful selection and good farming.

Bradford Co., Pa.

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Colds, Catarrh, Etc.

DR. GEO. G. GROFF.

An old idea of "a cold" in the head or on the lungs was, that it was a congestion of blood in the parts named, due to exposure of the body to atmospheric cold. Another idea is that a cold with discharges of water and phlegm is merely a disturbance due to nature's method of getting rid of superfluous or waste matter in the body. The idea generally held today by scientific physicians is that these colds are abnormal states of the body (diseases) due to specific causes, in other words, to low forms of life called germs. In the first place, the words "cold" or "catarrh" have no definite meaning. There are doubtless many varieties of these diseases due to different germs. Only a few of these are specifically named. Thus we have measles, whooping cough, pneumonia and even smallpox, which start with symptoms a good deal like simple colds, but later become distinct diseases, while influenza (la grippe), dengue, hay fever, bronchitis and some forms of asthma, pass from beginning to end among uneducated people as "colds." The "cold" is a temporary affection, while "catarrh" is chronic, or continuous.

Secondly, "colds" are often markedly contagious. Time and time again we have observed colds quickly affect our whole family, eight in number, clearly passing from one to another. Influenza and dengue are clearly infectious. In 1899 practically every American in Porto Rico had dengue. Tuberculosis of the lungs is clearly contagious, and is a disease which in the cough and discharge presents characters similar to many forms of catarrh.

Third, there is a connection between exposure to cold and abuse of the body, and these diseases. If we are correct in the surmise that colds and catarrh are "germ" diseases, then anything which lowers the vitality of the body even but temporarily, gives harmful germs a chance to gain an ascendency in the system. Thus, exposure to cold and wet is thought to bring on pneumonia. It does, but only because the germs of pneumonia under these conditions gain an ascendency. The same is true in the case of typhoid fever. We seldom see a perfectly vigorous person take this disease, while those in impaired health take it readily when exposed to the proper germs.

Now, in the same way, any abuse which lessens the vitality of the body, as over eating, under eating, lack of necessary sleep, of fresh air, of physical exercise, worry, etc., place the body in a state where different germs readily gain a foothold, and then we have disease. The discharges in colds and catarrhs are not superfluous or waste matter, but are the substances in which nature tries to throw off the poisonous germs and their products. The matter in a boil is not waste, but material which is to carry from the system the germs which are there making trouble, for boils, too, are germ diseases and quite contagious, as anyone with a little experience knows. Correct living tends to get the body back into that normal condition where it can overcome the germs causing disease. Nature thus will in time work a cure. Medicines, if they can be applied so as to reach the germs directly, will kill them and work an immediate cure. The trouble is, medicines cannot reach all the germs in the interior of the body, and so cannot make immediate cures, but every germ they kill is a help. The difficulty is seen in skin diseases, which while directly on the surface of the body, are often very difficult to cure, or are "stubborn," as the doctors say. How much more so internal diseases.

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Potato Culture in the South.

E. L. LIPSCOMB.

After fifteen years of practical experience and close observation, it is my opinion that it will only be a short time before potato culture in the South will be revolutionized, and in order to make it a success the South will have to look to itself exclusively for its seed both for the early spring planting (the summer crop) and its summer planting (the fall crop). When the South becomes independent of the North or West for its seed supply it will then become independent otherwise. And in order to do this the second crop will have to be depended on and more thoroughly developed. I have in my mind at this writing crops of late potatoes that were grown from second crop seed kept in cold storage from the first of April until August, and when taken out they were in a healthy, robust, unsprouted condition and were planted immediately and made as fine and perfect potatoes as ever grew in Maine or Michigan, and on the other hand, I know of instances when Southern second crop seed has been shipped to New England and exceeded Maine seed; hence I am convinced that all we Southern growers will have to do is to provide a sufficient supply of this most excellent seed and not overlook the importance of keeping the supply for late planting in cold storage until needed. I find that planting here in August will give us about the same conditions of climate that our more favored brothers in the North and West have. In writing this I trust other growers in the South may recognize this second crop as the key to successful potato culture in the South.

West Point, Va.

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American Progression.—The secret of nearly every American success is, of course, directly due to American superiority, but the great underlying cause of this degree of perfection is "progressiveness." As a notable instance, the recent international rifle match in England, for the Palma trophy, stands out supreme. Here the American Rifle Team was pitted against the best picked marksmen of the world and they came away victorious. As a disinterested writer in the London Saturday Review says: "The success of the Americans in the Palma competition, at Bisley, was due in the main to the perfection of their weapon." The eye of the winner sighted along a Stevens-Pope barrel to fire the champion bullets. The J. Stevens Arms & Tool Co., 890 Main St., Chicopee Falls, Mass., are naturally proud of the result. This shows the mark of American progression in the matter of firearms, and in which the "Stevens" products have again shown themselves leaders. Send to the above address for the book which tells all about the "Stevens." Sent free if you mention the P. F.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Fertilizer for Strawberries.—Whitewash.—W. F. Brown, Rome, Ga.—"Give me a formula for a fertilizer for strawberries and fruit trees. Would it be advisable to plant fruit trees in a chicken yard? I want to set a variety of fruit trees in the enclosure. Could you give me the recipe for Government whitewash that is used on light houses, etc.?" A good fertilizer for strawberries will be, acid phosphate, 900 pounds; cotton seed meal, 800 pounds, and high grade sulphate of potash, 300 pounds, to make a ton. Use 700 to 1,000 pounds per acre, one-half in the fall and the rest in early spring. The same will answer for young fruit trees, but in smaller amount, spreading the fertilizer as far as the limbs extend annually. Following recipe is as good as any for whitewash, and may be what is called the Government recipe. Slake half a bushel of fresh lump lime with boiling water, keeping it covered while slaking. Strain it, and add one peck of salt, dissolved in warm water, 3 pounds of ground rice, put in boiling water and boiled to a thin paste, half a pound of powdered whiting and one pound of glue dissolved in warm water; mix these well together and let stand several days. Keep the wash thus prepared in a kettle or portable boiler, and put it on hot. Thinned to the proper consistency with warm water it may be applied to outdoor work with a spraying pump and nozzle very rapidly. There is no objection to planting fruit trees in a chicken yard. For plums especially it is the best possible place, since by jarring the trees the bitten fruit and the curculios will fall and be picked up by the fowls, and the shade of the trees will be of advantage to the poultry.

Rice Growing in Texas.—Mrs. K. A. Dougherty, Tyrone, Pa.—"Is rice growing profitable in Southern Texas? What is the price of land there? Where could I purchase a book on the subject? What are the prospects for stock raising and poultry on the Panhandle of Texas? What are the prices of land in West Central Arkansas suitable for fruit culture? Where could I get a book on general farming in the Southwest?" Rice culture is certainly profitable in Southern Texas, but it requires plenty of capital to carry it on, and can not be done well on a small scale or with limited means. In the rice growing section the prices of land have materially advanced and only someone in the real estate business there can tell the prices. B. Irby, Beaumont, Texas, can probably tell you about lands. Write to the Secretary of Agriculture, Washington, D. C., and ask for a copy of Farmers' Bulletin No. 110, on "Rice Culture in the United States." This is the only publication on the subject we know of. Perhaps some of our readers in Arkansas can tell you what fruit lands there sell for. Get a copy of "Crop Growing and Crop Feeding" from The Farmer Co., for 50 cents in paper or $1 in cloth binding.

Red Spider on Cotton.—J. B. Scarboro, Mt. Gilead, N. C.—"The red spider has done much damage to cotton in some fields in this section. When the leaves are attacked they turn red and rusty and soon fall off, with the bolls and squares, and the cotton is completely ruined. They can be destroyed by dusting sulphur on the cotton as soon as they appear, but this would be a great job on a large field. If cotton is planted next year on the same land where the mites ruined it this year, will they ruin it as they did this year? If so, can anything be done to prevent it? Would turning them under deep this fall destroy any of them? Most of the cotton ruined this year was on new land that has been cultivated three years. Please give me all the information you can through the P. F." The red spider or mite is an insect whose life and activity depend upon the weather. Water is its greatest enemy, and it is seldom troublesome in a wet season. Hot and dry weather favor its increase and there is no way known for preventing it. Spraying the plants with soapsuds will keep them down, but it is a heavy job to spray a field over. Sulphur, as our friend says, will drive them, and it can be applied with a powder bellows. Dry weather or anything that checks the growth of the plants invites the attack of the spider. They weave their webs on the under sides of the leaves and increase there very rapidly. The best thing that can be done in the way of prevention is a good rotation of crops and the increase and conservation of humus in the soil, which is of a moisture-retaining nature, and prevents the growth of the plants being checked by dry weather and thus inviting the mites. There is no reason to suppose that they will be plentiful in the same places another season unless the season is dry, but it is bad farming to grow cotton year after year on the same land. If you could visit the test farm of the Department of Agriculture in Edgecombe Co., you could see the effect of a proper rotation of crops in a crop of cotton of a bale and a half per acre this season. Stunted plants are always the easiest prey to insects of any kind, and a vigorous growth is the best preventive you can have against any kind of insect. If the cotton was so situated that a stream could be turned on it in dry weather, the irrigation will be the best means for fighting the red mite, for, as we have said, water is their greatest enemy.

Farming in S. E. Missouri.—T. F. Mitchell, Jackson, Mo., says that he thinks the fertility from peas is sooner available in the South than northward. Even 100 to 150 miles south of him he says that they sow peas after harvest and cut them and put land in wheat again and make fine crops, while where he lives they cannot make good crops of any fall sown plants after peas, but in the spring can get fine corn and oats on the pea stubble. Wheat is the money crop in his county, and the poplar and pawpaw ridges make the best wheat land. He complains that the corn binder knocks off a great many ears, and shredding is expensive. Has never seen a silo, and would like to know if that is the most practicable way of handling corn. Does the amount of nutritive matter in the stalk pay for the expense of handling and preparing for feed, and is there not other feed that is easier to handle and less expensive. There is no forage crop grown that can compete with Indian corn in this country. It pays thousands of farmers to cut and make silage of their corn. But it will depend on a farmer's own conditions as to what is the best use he can make of the crop. It is far cheaper to use the corn binder than to cut corn by hand, even if the binder does knock off a few ears. If one has not a silo it will pay him to shred the stover and thus put it in convenient shape to store and feed. The difference in the results with peas with you and further south is mainly the longer season and greater maturity of the crop. Also a larger nitrogen fixing because of the longer season. If you are interested in stock raising either for beef or the dairy, it will pay you to have a silo and to use the larger part of the corn crop in this way. We have stored silage at a cost for the whole crop of less than $1 per ton, and its feeding value was fully as great as that of mangels that cost $3 a ton to produce and far more labor to prepare for feeding to stock.

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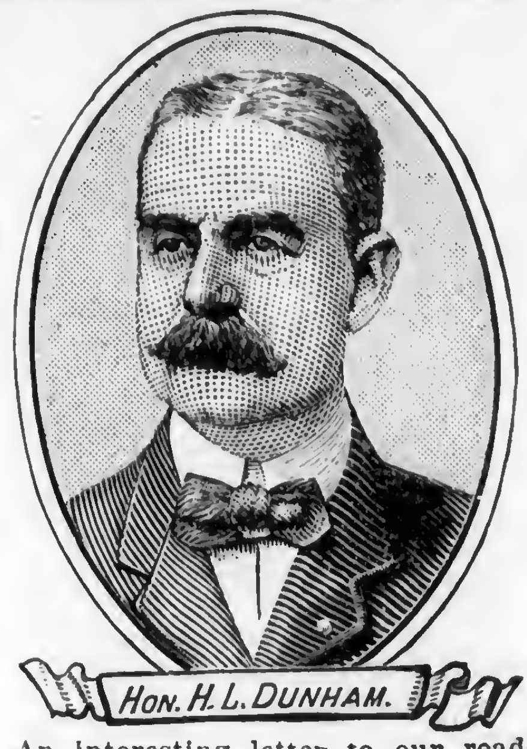

HON. H. L. DUNHAM.

An interesting letter to our readers from Hon. H. L. Dunham, Ex-Mayor of Dover, N. J.

Dover, N. J., Nov. 12th, 1902.

I had both kidney and liver trouble for over three years. I tried the best physicians in Washington, D. C., Pittsburgh, Cincinnati and Chicago, and regret to say that I received very little benefit until I commenced taking the great kidney, liver and bladder remedy, Dr. Kilmer's Swamp-Root. After taking the first bottle I noticed quite a change which satisfied me that at last I had found the right medicine. I continued on until I had taken four bottles, by this time I noticed such a marked improvement in my health, in every way, that I felt satisfied I was cured. But, to be positive beyond a question or doubt, I was in Chicago during July, 1902, and went to the Columbus Medical Laboratory, No. 103 State St., and had them make a thorough and complete microscopical examination which showed my kidneys and liver to be perfectly well and healthy. I have their written report in my possession, signed by the doctors of the above Medical Laboratory, which is recognized as one of the best in the country.

Very truly yours,

H. L. Dunham
Ex-Mayor of Dover, N. J.

The mild and prompt effect of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. Recommended and taken by physicians, used in hospitals and endorsed by people of prominence everywhere. To prove what Swamp-Root will do for you a sample bottle will be sent absolutely free, by mail, also a book telling all about Swamp-Root and its wonderful cures. Address Dr. Kilmer & Co., Binghamton, N. Y., and be sure to mention reading this generous offer in the Philadelphia Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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Live Stock and Dairy.

Developing a Dairy Herd.

PROF. A. M. SOULE.

The difficulties to overcome in the development of a dairy herd are many and serious, especially to the novice. First, he has to learn all about the temperament of the dairy cow and generally it takes him a long time to realize how delicately constituted she is. Then, he has to master the science of feeding in order that she may be nourished properly at the least cost and with the least waste of animal energy. He must be a good judge of cows and able to determine which will produce milk and butter with the greatest economy, or else he can never master the science of animal breeding and thus be able to breed animals for his own herd, whose origin and performance is known to him.

The only sure way to build up a dairy herd is for the owner to breed and rear his own cows. It takes longer and requires a great deal of patience, but in the end brings its own reward, for then the stock is known "from the ground up," as it were, and once this part of the business is well established there is no obstacle in the way of making it a financial success, provided good common sense is used in the management and feeding of the herd and in the disposition of the dairy products.

As the development of a dairy herd at a moderate cost and in a comparatively short period of time is the problem of the dairyman, so it should be the problem of the Experiment Station, because if an accurate record is kept it will be of inestimable value, not only to the established dairyman but to the man who is new to the business. As it happens, the Tennessee Station has been particularly fortunate in having an opportunity to study these problems at first hand. About four years ago the development of the present Station herd was undertaken. At that time it consisted of about 17 or 18 cows, nearly all of which were grades and many of the pure bred cows were very old and had really passed their usefulness. So the development of the present herd had virtually to be commenced on an entirely new basis. The outlay for breeding animals was $100 for a two-year-old sire and $500 for pure bred cows and heifers, a sum within the reach of any progressive farmer who might wish to enter the dairy business. The blood lines represented are Tormentor, Coomassie and Stoke Pogis St. Lambert. This sum did not include the barn, silos and machinery, but interest has been allowed on the investment for these items in making up the following statement. At the present time the herd consists of about fifty animals of which thirty-four are pure bred Jerseys and the balance grade Jerseys and Holsteins. Several of the grade Jerseys are really pure breds, though ineligible to registry, and only a small per cent. of the herd now consists of Holsteins or grades. There are at present 30 cows and heifers in the stable, besides two sires. The balance are young calves and heifers kept to take the place of cows who are reaching the age limit or whose milk and butter yield are unsatisfactory.

During the year 1902 the herd consisted of 27 cows. These animals produced 137,258 pounds of milk and 7,825 pounds of butter, or 5,083 pounds of milk per head and about 300 pounds of butter. This is the standard set for the present, but it will be raised as time passes and a herd developed in the course of several years whose average yield will be much higher. This is not as difficult a matter as one might suppose, as the record of a few of the animals in the herd shows at the present time: Nettie, 6,850 lbs. milk and 443.29 lbs. butter; Aggie Lucille, 9,793 lbs. milk and 394 lbs. butter; Filices 2nd, 12,673 lbs. milk and 473.11 lbs. butter; Iuka, 6,171 lbs. milk and 417.56 lbs. butter; Lady Tippins, 5,676 lbs. milk and 337.71 lbs. butter.

Owing to the short time which has elapsed since improvement was undertaken only a few animals of our own breeding have come into milk. Among the number is Lady Tippins, a Jersey heifer with her first calf, who in the twelve months of her lactation period gave 6,587 pounds of milk and 398 pounds of butter. She is thus an animal of great promise and considering the outlay involved in the purchase of the foundation stock has been bred at a very moderate cost.

The following is a summary of the herd statement for 1901-2: The value of 28 animals, including the 27 cows and one pure bred sire was $2,000.00. The labor involved in feeding herd, caring for and delivering the milk, etc., was $1,065.00. An accurate experimental record is kept, the food weighed night and morning and milk sampled and tested for fat and solids each day, which increases the labor by at least $360.00 a year and the herd should certainly be credited by that amount, as it could be saved in an ordinary farm herd. In making this estimate the cost of the concentrates purchased — wheat bran and cotton seed meal, as calculated at the price paid for them in the open market, was $712.00. The roughage, which was mostly silage, was produced on the Station farm and is charged to the cows at actual cost of production, as shown by the farm crop records, which are very accurately kept. This item amounts to $387.00. The cost of repairs, feeding and shoeing horses, painting and repairing milk wagon, buying milk tickets, milk bottles, pulp caps, repairing harness and other incidentals amount to $400.00. The interest on the investment of $5,000.00 in the barn and $2,000.00 in stock at 4 per cent. would be $280.00. The gross expense in connection with the herd was thus $2,835.00.

The income from the herd is as follows: The gross receipts from the sale of animals and from milk was $3,600.00. The milk and butter from the herd is sold in Knoxville. The milk now sells for 33½ cents per gallon and the butter for 35 cents per pound. Some will say that this is a fancy price; that the average farmer cannot obtain the same. Let him first consider that the milk sold three years ago for 16 cents a gallon and the butter for about as much per pound. It costs more to produce the kind of milk and butter that is now offered to the trade, but as it is perfectly sanitary they are willing to pay the price and the demand is greater than the supply at the present time. This shows that there is an opening for hundreds of progressive dairymen to supply the best quality of milk and butter to the city trade. They will pay for it as readily from private individuals as from the Station. The Station does not run its dairy herd for the purpose of making money. It is maintained solely for experimental investigation, but at the same time it is the aim and object of those in control to place the herd on a profitable basis, for if the Station cannot demonstrate a financial profit through the maintenance and development of a dairy herd, then its experimental investigations fail utterly from a practical standpoint.

The value of the young stock from the sale of veal calves and cull cows in the year 1902 was $810.00. Seventy-five per cent. of the value of the manure at 15 cents for nitrogen, 4 cents for phosphoric acid and 5 cents for potash, was $466.00, and this statement does not include the droppings from the young stock. The total receipts from the herd, including the value of the excrements, was $4,876.00, from which must be taken $2,835.00 for expenses, leaving a net profit of $2,041.00. As the manure is hauled directly to the field, except in bad weather, and $466.00 represents only 75 per cent. of its total value, this statement cannot be said to be too high, for one could not go out and buy commercial fertilizers having the same value and influence on crop production as the manure for a much larger sum than that indicated. If the manure is left out of consideration, the herd still made a profit of $1575.00. If the $360.00 item for labor expended in keeping the records is discarded the profit would be $1,935.00. Leaving the value of the increase of the herd out of consideration, it is still evident that the herd made approximately $1,000.00 clear profit from the sales of milk, butter and cream for the year 1901-2. This statement takes into consideration every item that can be directly charged to the cows. No allowance is, of course, made for the interest on the dairy building in which the milk is cared for, but which is used for student instruction. This is offset by the high value placed on the barn and other equipment which is used largely for experimental purposes as well, though interest on its full money value is charged to the herd.

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This statement is believed to be absolutely correct in every respect, and certainly should encourage the farmers of the Middle South to give greater attention to the subject of dairying. In situations away from cities there will be drawbacks and difficulties to contend with, but still a good market can be found for many years to come for dairy products of first-class quality. The dairy business in order to be profitable, must be managed on strictly business lines. It is in a sense an exact science, and the reason so many people fail is because they do not regard it as such and endeavor to conduct it after a haphazard fashion. Wherever this practice is followed it will result in failure. Give the dairy business the consideration, the intelligent thought and effort that it deserves and it can be made a profitable industry on thousands of farms and will enable the building up and reclaiming of worn-out lands. Like every other business, it has its drawbacks, but these are offset by the opportunities it presents to the industrious student, and it is certainly to be hoped that the day is not far distant when the farmers of the Middle South, with their splendid climate and fine natural advantages in the way of cheap food products, will rise to the occasion and produce not only the milk, butter and cream needed for home consumption but for export to sections of the country which are not so favorably situated for the cheap production of dairy products.

Tennessee Experiment Station.

Dairy Experiments.

HARRY G. BELL.

During the last few years the Canadian dairyman has had one absorbing ideal. It has been to improve the methods of dairying, especially of butter making, and consequently to attain for Canadian dairy produce a pre-eminent status. The foremost centre of research along this line is naturally the Dairy Department of the Ontario Agricultural College, under the management of Prof. H. H. Dean. Before describing one or two of the experiments conducted, it might be of interest to briefly describe the dairy herd and their management.

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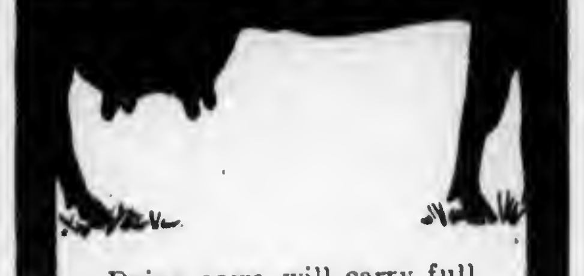
The herd at present consists of 4 pure bred Ayrshires, 10 pure bred Holsteins, 5 grade Holsteins, 3 pure bred Jerseys and 10 grade cows, besides a number of young heifers. During the summer the herd of milch cattle is pastured on a rich, well watered meadow of clover and timothy grass. When the time for stabling comes the herd is housed in a commodious dairy stable. This stable is well equipped with water troughs so that a constant supply of



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pure water is at hand for the cows to use at will. Their winter food is composed of a ration of corn ensilage, good clover, or clover and timothy hay, roots (mangels) and chopped grain, having a nutritive ratio of 1. Some of the main features of the care and management of the herd emphasized by Prof. Dean are: 1. Constancy and kindness of attendants. 2. Cleanliness of stables. 3. Wholesomeness of food. 4. Regularity of milking periods. 5. Care of cattle before and after calving. Unfortunately it has been impossible to obtain all these conditions during the past year on account of frequent change of attendants, and the sickness of one or two of the good cows. However, a creditable record has been made by some of the cows. "Marcena," a pure bred Holstein, has held the record for two years. Last year she gave 10,795 pounds of milk, from which was estimated 461.57 pounds of butter. She promises to lead again this year, having already given 5,577 pounds of milk, containing 172.118 pounds of butter fat, in 46 days. The two other leading cows stand as follows: Molly (grade Holstein), 1902, 8,837 pounds.; 1903, 8,324 pounds, 273 days. Daisy of Rockwood (Holstein), 1902, 8,822 pounds; 1903, 7,793 pounds, 266 days. These figures show that the amounts of milk obtained vary considerably. However, the aim of the dairy is to reach a standard of 10,000 pounds of milk per cow per year.

One experiment carried on during the past year was the determination of the best temperature for pasteurization of milk for butter making. A vat of milk was passed through the separator as follows: ¼ vat at 180 to 185 degrees F.; ¼ vat at 160 degrees; ¼ vat at 140 degrees; ¼ vat at 85 degrees. After ripening the cream, each portion was churned and the butter put in cold storage at a temperature of 40 degrees F. When the different lots were tested they ranked in order of merit as follows: That from milk pasteurized at 180 to 185 degrees, first; that from milk at 160 degrees, second; that from milk at 140 degrees, third; that from milk at 85 degrees fourth. Thus the results of this experiment lead to the inference that the best temperature for pasteurizing milk to be used in butter making is 180 to 185 degrees F. The above experiment was begun early in the spring and was performed once a month till fall, hence the results stated are the mean of several experiments.

Other investigations of subjects of butter making and cheese making are being carried on successfully, with the result that the attentive, observant dairyman is gaining valuable knowledge on some of the most perplexing questions of his occupation.

Ontario.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Loosened Teeth.—I have a young mule that got two of his teeth knocked loose that he had shed; will they tighten up or is there anything that could be done for them? I have been told if they were out that new teeth would come in their place.

Carp, Tenn. J. F. LENTY.

If you mean that he shed his milk teeth and the loosened ones are those that came in later, they will not be replaced if removed, and will not tighten up if the roots have been torn loose. They should be removed if gums are badly lacerated and teeth are quite loose.

Worms.—I have a colt 5 months old. It seems to have been puny all of its life; does not eat anything hardly; sometimes would not take all the milk from the mare. Have not weaned it yet. Its hair is rough, tongue is sore; its bowels are loose and within the last few days it has passed 12 or 15 long white worms, from 10 to 12 inches long. Colt is very poor. I. B. WINFREY.

Farmington, N. C.

Worms are doubtless the cause of the present trouble and may have been present for a long time. Give the foal four ounces of castor oil and a tablespoonful of turpentine, well shaken up and administered after starving for 12 hours. Afterwards feed on crushed or ground, screened oats, wheat bran and corn meal made into a mush with sweet milk and molasses. Feed it lightly at first along with bright, well made hay and gradually increase it as colt commences to thrive. Night and morning in this feed mix a teaspoonful of dried blood meal and also increase this food gradually. Allow free access to a box containing a mixture of four parts common salt, two parts flowers of sulphur and one part dried sulphate of iron. If worms still cause trouble, in one month give another dose of castor oil and milk, and when scouring ceases, give turpentine and raw linseed oil two or three times at intervals of ten days.

Warts.—Will you give the cause, preventive and cure for warts on cow's teats.

Aroca, Ky. M. E. GRIFFITH.

Warts are due to a deranged condition of skin and cannot be prevented, as such condition is only indicated by appearance of warts. See remedy advised by a correspondent in this department. Please try this remedy and report experience. It should prove useful.

Cough.—Please tell me what ails my mule, and how to cure it. About two months ago he started to cough, a kind of hacking cough, but does it most when at work. His glands are swollen some and then he has the lampas, too. I've been feeding him good timothy hay and five quarts of oats. He is in good order and is a free driver. J. S. BURD.

Aaronsburg, Pa.

Lampas is an imaginary disease, but it is probable that his teeth require attention and inflammation of the mucous lining of the mouth may cause swelling of the hard palate, giving rise to the condition know as "lampas," or "lampers." Wet all food, avoid dusty or damaged hay or grain, see that stable is clean and well ventilated. If cough persists after all of these things have been attended to give an ounce of glyco-heroin three times daily, rub throat from ear to ear twice daily with soap liniment.

Periodic Ophthalmia.—A scum seems to be forming over a young mare's eyes. What can be done for her? Would severely and frequently beating a horse cause blindness? E. L. BANK.

Grand Rapids, Mich.

See answers under this head in back numbers of the P. F. A scum may form apparently over the eyeball, but really in the cornea as a result of a blow from a whip, but beating the horse would scarcely cause it unless the eye was struck. Keep animal in darkened stable, cover eye with a soft cloth to be kept wet with a solution of one drachm of sulphate of zinc and half a drachm of fluid extract of belladonna leaves in a quart of soft water. Give one drachm of iodide of potash in water three times daily. Feed on soft food. Iodide of potash cannot safely be given to a mare if she is in foal.

Remedy for Warts. — Having seen several inquiries in the P. F. for a recipe to remove warts from a cow's udder, etc., will send you one which I have tested, and have never known to fail to take them off. Take equal parts of pine tar, sweet oil and linseed oil, put on stove and heat and mix thoroughly, and after it cools apply to wart every morning after milking. Our cow had them on her belly and neck as large as a medium sized potato, and also her teats were filled with small ones (that was in the early part of the summer), and I used this application and now there is not a single one on her anywhere. I send this in, thinking it may benefit someone else, and it is something so simple that anyone can mix it at home. MRS. M. B. LOVE.

South Boston, Va.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

A New Boom for the New Onion Culture.—Mr. H. W. Collingwood, chief editor and "Hope Farm" man of the Rural New Yorker, has got the "onion fever," and he got it bad. And I believe that in his case the disease may turn out to be a rather profitable affliction (profitable to him, not to the doctors). He has raised a crop of Prizetakers worth talking about, of which he feels proud, and which bring in the cash. I had some personal correspondence with him a year or more ago about his venture. It took some time for him to get infected, but finally it "took," and "took thoroughly." I have it often thrown in my face that the "new" onion culture is not new, which I have always conceded. Friend Collingwood says: "Of course I am aware that this method of growing onions has been practiced for years, yet I find many who never heard of it." If there is one reading soil worker in the land who has never heard of it, it certainly cannot be my fault. I have tried to make every one of them acquainted with it, and for that purpose have written it up in books and articles until I imagined the public must be sick of it. And yet there are "many who never heard of it." It is the fault of such up-to-date men like Mr. Collingwood, who did not seem to know a good thing more quickly when they saw it. But Mr. Collingwood is making up for it now, and helps the new boom along. His report is not only interesting, but quite instructive, and I shall quote a few paragraphs. One, relating to setting the plants, is as follows:

"By May 10 we were ready to transplant the onions (the season had already put us back more than a week), when the fearful drought came upon us. The onion ground could not well bake, since it had been worked so often, but it was drier than any chip that ever basked in the sun. Then we made our mistake. We thought that the chief strength of the onion lies in the volatile oil which makes your eyes water. We ought to have known that a plant which can water the eye ought to be able to water itself! We did not dare set those plants out in the dry dirt, for while we believed most of the statements in Greiner's book, we did not see that a young onion seedling will stand rougher usage than any other little plant. So the plants remained in the hotbed. We kept the Acme at work and Philip put on muriate of potash. At last there came a slight drizzle, and in desperation Philip began setting on May 26. All hands went at it except the Madame, and for the next few days every inhabitant of Hope Farm knew that he had a back. We put our rows two feet apart and set the seedlings four inches apart in the row. In order to get the rows exactly true we ran lines of string across the field. Though we had no rain for over a week and the seedlings were set right in the dust, not a dozen of them died, and we saw what a mistake we had made in not planting before. Yet there was an advantage in this, too, for the constant working through the dry weather killed millions of weeds, and saved a vast amount of hand work later."

I usually lay a good deal of stress on early planting. While we have often made good onions from seedlings set in open ground the very last of May, we prefer, and make it a good deal safer, to set our plants in April and up to as early in May as we can manage to finish off. The last two seasons (1902 and 1903) were especially favorable to late planted onions. We had plenty of summer rains right along. With a severe dry spell setting in in June, and continuing until August, the late planted onions would probably remain small. In regard to distance between the onions in the rows Mr. Collingwood says: "This book (Greiner's New Onion Culture, price 50c.), however, tells of planting the onion sets four inches apart in the row, and then mentions onions six inches in diameter!" Friend C. seems to doubt that an onion has strength enough to overcome an apparent mechanical impossibility. A 6-inch onion will find a 4-inch space big enough in an emergency. We see that in onions grown from seed, on rich soil, quite often. Sometimes you will find three good sized bulbs all in a cluster, and a fourth on top of the others. When the space is not large enough in line with the row, the bulbs, if they are bound to grow larger, will simply get a little out of that line, one to one side and the other to the other side.

The next problem is how to sell these big bulbs, some of them weighing more than two pounds each. Mr. Collingwood says: "We have not sold many yet, and cannot say whether they will bring more than the small onions. It seems that the ordinary trade calls for an onion that can be served whole, not over two inches through. There is a smaller demand for big onions for slicing or for baking entire with cheese. We are after that trade." Before our big "Spanish" onions had made their reputation for mildness and quality in our local markets, we sometimes found that people wanted the smaller onions in preference to the big ones. Now we have no trouble in finding a market for them. I have usually obtained about $1 per bushel, sometimes less; in some cases more. If I had 100 bushels now they would be as good as $100, and I think people would gladly pay $1.25 a bushel in bushel lots for home use, for them. The "Hope Farm" people will have to work up their trade, and having once done that, they can easily hold it.

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Notes from a Carolina Garden.

The snow that fell on the morning of the 24th of October was very wet and soon turned to rain, and not the slightest damage was done to vegetation, not even the lima beans showing any signs of cold. Today (Oct. 26th) the sun is shining warm and we are getting fresh figs and beans from the garden, and the finest roasting ears of the season.

Six varieties of winter radishes sown last week are now above ground. The seeds were sown a little later than usual, and we will look with some interest for the results. But with heavily manured ground it does not take a radish long to get of eatable size. As we got through the past cool spell without frost I look for a lease of warm weather and real Indian summer.

In the shrubbery the Eleagnus Simoni and Photinia Japonica are in bloom, but neither of them ever ripens any fruit, since the cold weather comes too soon after their flowering. But these evergreen shrubs are well worth the space they occupy, for the flowers of the Eleagnus perfume the air all around the plant, and the foliage of the Photinia is large and handsome. Alongside the Photinia is a plant of the sweet olive, Osmanthus Fragrans, and its tiny flowers rival the Eleagnus in perfume. This plant has occupied its present place for five years. Next to it is our favorite camelia, Sarah Frost, one of the few double ones that bloom well in the open air here. Then comes the gold dust tree, Aucuba Japonica, and then a group of Chinese azaleas, which are now, like the camelia, loaded with flower buds and promising a great show for the next spring.

Setting strawberry plants is now in order. I prefer to set these in late October or November, for the ground is then permanently moist, and they are certain to live. Planted early in fall the plants will give a fair crop of fruit the following spring, but the weather here is generally so dry in September that the planting is rather uncertain, unless one has means for irrigation. The market gardeners of the South are very rapidly coming to the conclusion that they must provide some means for irrigation if crops are to be made certain in the oft-repeated droughts that come here. They are finding, too, that it pays to give intensive work on a small area instead of spreading out over a large one. They are growing every year more potted plants of strawberries, so that they can make a plantation at any time. Potted plants set the last of August give a full crop the next spring. The young runners are taken early in the summer as soon as they have made a few white roots, and are carried to the potting shed where one can pot them rapidly. They are then packed closely in frames where they can be shaded by lath screens and convenient to water. They do not waste time, as some writers advise, in burying pots for the runners to root in, about as silly a plan as a sensible man ever contrived.

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"I read several other farm papers but think the P. F. the best."—John. Campbell, Bolivar, Tennessee.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Thinning Out Forest Trees.

The question was recently asked me whether the cutting out of large pine trees in a forest would destroy the younger trees coming up under the larger ones. The inquirer had been told that the cutting down of the larger ones meant the destruction of all the trees, large and small. The words of caution which he received were well timed and not at all unnecessary. Small trees overshadowed by large ones are always comparatively weak. Their foliage is tender and in all parts they are not as robust as they should be. A sudden exposure to light and air will cause the loss of foliage very often, especially when cold winds accompany it. This is often seen when pot plants have been in a dark place for a while and are suddenly brought to the full light; also in the case of severely pruned hedges, where the inner and tender twigs are suddenly exposed to light and air. In the case of one who has a grove of trees to thin out, it should be done gradually, if possible, and the best time to do it in the North would be early spring, when the cold is over and heat not yet set in. Young trees growing among larger ones are usually too tall for their age, and when left behind in a cutting rarely make entirely satisfactory growth. If possible, it is far better to leave for a future growth only trees of a quite small size, say from six to twelve feet, unless some that are larger have not been too crowded and are of a natural outline.

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Horticultural Queries.

Osage Orange.—I would like some information about the Osage orange. Is it a good timber to grow for posts? If planted thickly will it make a straight, slender tree suitable for posts? How long will it take to grow them large enough for a post? I have seen posts that have been in the ground until all the other parts of the fence had rotted away, and still they seemed to be in almost as good condition as when put in the ground. M. L. Fogel.
Kansas City, Mo.

The Osage orange is not classed as a timber tree or one from which posts are desirable. This may be from want of testing it, as, from what you have observed, it must possess lasting qualities. If planted thickly, say 4 feet apart, there should result straight, slender posts. As you may have observed, when growing without crowding it makes a low, round-headed tree. To get them of post size would require 10 years, as it does any other tree. The yellow locust and the catalpa are much esteemed for post purposes.

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You cannot treat your stomach as some men treat a balky horse; force, drive or even starve it into doing work at which it rebels. The stomach is a patient and faithful servant and will stand much abuse and ill treatment before it "balks," but when it does you had better go slow with it and not attempt to make it work. Some people have the mistaken idea that they can make their stomachs work by starving themselves. They might cure the stomach that way, but it would take so long that they would have no use for a stomach when they got through. The sensible way out of the difficulty is to let the stomach rest if it wants to and employ a substitute to do its work.

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Apple Orchard.—I wish to set an apple orchard soon, and would like a few questions answered. Is it necessary to subsoil in clay and slate land (mixed)? If so, how is it done? When should trees be set, and of what age, and is there anything in whole root trees? Also is there any disadvantage in getting trees from the North or South? I have an orchard of three acres set 8 or 10 years ago, which has been badly neglected, and which is only about one-third choice winter varieties. The orchard is very uneven, with some missing trees set a year ago. Have in the lot about 50 nice trees, but most of the trees are leaning, owing to neglect. I wish to enlarge the orchard. Would it be wise to re-set the old part and cultivate all together and have an even lot of trees and cut out the old trees when they crowd too much?
Port Republic, Va. C. F. Fifer.

There is always a gain in subsoiling, especially when the soil is hard, as your land probably is. You should do it this autumn or through the winter, setting the trees in spring. Two-year-old trees, which should be five to six feet in height, are best to plant. There are those who think whole roots better than others, but if you can get well rooted trees it won't make a bit of difference whether they are from whole or piece roots. It will make no difference to you whether the trees you plant are Southern or Northern raised. I would incline towards leaving what good trees are in the old orchard and setting others among them, unless the number of good ones is not worth considering. Excepting for appearance sake there is no reason why the old trees should not remain. Have everything ready to plant the trees as soon as the ground is free from frost in spring. You might even procure the trees now, heeling them in securely, unless you know you can have them on hand when wanted in spring.

Saving Walnut Tree. — Last June a horse dragged a rope across base of a young English walnut, peeling it more than half way around. Bound it in mud at the time. Tree made good growth, but is casting its leaves before others of same kind. Wound is an inch wide. How can I save the tree?
Calistoga, Cal. W. R. Teale.

I do not think the tree will die. It is getting less support than before, with half the bark off, as you state. And yet you say the tree made a good growth! If you paint the exposed wood well it is all you can do. This will prevent rotting; and in time new bark will overlap the scar; and you may feel assured it will not be the wound that causes the death of the tree if anything does.

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Horticultural Notes.

A Garden Perennial.—A beautiful perennial for the garden is the wild lupin, Lupinus Perennis. Its heads of blue flowers are conspicuous and handsome.

Planting Trees.—The smaller trees are when planted the more readily they adapt themselves to their new situation, but they need more care than larger ones. A two-year-old fruit tree is a good size to plant.

Moving Trees.—In removing trees, no matter how carefully done, portions of the roots are broken and destroyed, and to make amends the tops should be trimmed proportionately before or as soon as planted.

Planting Pines.—Pines and other evergreens for forestry purposes are best set early in spring. Be careful that the roots are kept moist from the time of lifting to resetting. A good watering is often of great advantage, solidifying the ground about roots.

Cosmos well repay care in summer, though they do bloom but in October. It must be remembered how few there are of flowers at that late season, and how beautiful the cosmos is. Seeds are sown in spring and the plants keep growing all the summer.

Protecting Roses.—To protect everblooming roses to the best advantage in winter, place manure or common soil about the plants, sufficient to cover from four to six inches of the stem. With this much preserved there will be sufficient to produce abundant wood for flowering.

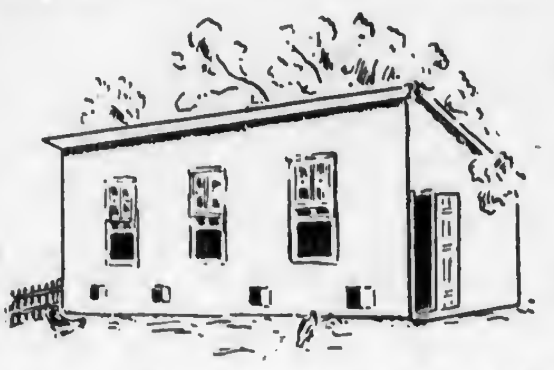
POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Poultry Houses.—The arbitrary rules which apply to the erection of poultry houses, do not fix any particular shape, width, height or interior arrangement. They do settle on some certain points, however, and in these respects do not allow of their disregard or violation. The house should be built in the most sheltered spot. It should be roomy enough to accommodate the desired number of fowls. It should be comfortable and free from draught, yet affording proper ventilation. The illustration shows a simple style of building as now in use by many poultry keepers. Whenever the winters are severe, as they are here, we need double walls with dead-air spaces, paper lining, etc. The outside might be covered over with tarred felt besides. Plans for convenient interior arrangement will be given later.

The original of the house here illustrated (according to Ohio Farmer) may be found in Brown county, Ohio, the property of Miss Fannie Kelly. It is built in shed form, 25 feet long and 12 feet wide, with posts 10 feet high in front and 6 feet high in the rear. For the foundation, a trench, ten inches wide, was dug and filled in with broken stone. On top of this two courses of stone were laid in mortar, making the foundation about 10 inches higher.



After the wall was completed, the space enclosed was filled in with gravel nearly to the top of the walls. Weather boarding is shiplap, and the roof shingles. There are three windows on the south side and one on the west with a door facing the east. An important point in the erection of poultry houses is that of cost. About the first thing people usually ask is, what will the building cost? The house here described and illustrated was put up at the following cost:

Lumber	$50.00
Stone	1.50
Mason work	2.00
Carpenter and painter	13.00
Hinges and nails	1.00
Galvanized gutter	4.50
Gravel and sand	3.00
Total	$75.00

"The most convenient part about this house is the way of caring for the droppings, a device that can be easily constructed and gives entire satisfaction. On the low side of the house is a platform running the whole length of the building. This is to catch all droppings from the roosts and is 3½ feet wide, made in sections 6 feet each so as to be removed occasionally to be thoroughly cleaned. This platform is about 4 feet from the floor on the highest side sloping about 50 degrees to a galvanized gutter, which is 8 inches wide and about 7 inches deep, with a round bottom. The gutter is also in sections of 6 feet each, one end being enclosed, and when full can be quickly taken out and emptied. The gutter is held in position by pieces of strap iron and staples similar to a hasp on a door. All droppings that stay on the platform can be pushed down into the gutter before removing, which is done every two weeks, thereby keeping the house in a very nice condition. Old gas pipe is used for roosts, wrapping tightly with gunny material which is soaked occasionally with coal oil; this keeps the roosts free from lice. There are three roosts as long as the platform, one being over the gutter. Over the front of the platform, about 4 inches above it is stretched a wire to keep the chickens from roosting there. This house is intended to accommodate one hundred birds."

Patented Lice Exterminators and Poultry Foods.—The U. S. Department of Agriculture has turned the search light of investigation on some of the patented lice exterminators on the market. One of these exterminators that is selling at the rate of 25 cents per box was found to contain 15.5 per cent. sulphur, a small amount of some volatile substance possessing the odor of napthalene and other higher coal tar products, and 80 per cent. of what appeared to be only common earth. Another sample, selling at 25 cents per box, contained a very small amount of tobacco, a lot of partially air-slaked lime treated with a small amount of the higher products of coal tar, and a large amount of what appeared to be clay. Still another sample selling at 25 cents per box was found to be a mixture of tobacco with a small amount of lime, which appeared to have been treated with the higher products of coal tar. A large amount of sand was also present. The Government expert says: "It will at once be seen that all three of these lice killers are frauds. The first, it is true, does contain sulphur and a substance like napthalene, each of which is good in driving away vermin, but it also contains 80 per cent. of worthless earth for which we are paying at the rate of 20 cents a pound. The second contains nothing that will kill vermin except tobacco in such small quantities as to be practically of no use. The third contains enough tobacco to be of some value perhaps, but the same amount of good tobacco as in the sample could be bought for one-third as much."

In regard to high priced poultry foods, the case is not materially different. The "red albumen" fake is still fresh in the memory of many poultry keepers. Red albumen, say an exchange, was "a fraud for two reasons; first, because it was sold for something which it was not; second, because it was sold for a price out of all proportion to its value. There are many other kinds of poultry foods that are sold in every town and hamlet of the country that are a fraud upon the public." It is true that "hens will lay, and have laid, more than 200 eggs in a year without high priced foods. They have laid all winter with the ordinary foods that any farmer can produce on his farm, and without even so much as a pinch of pepper." A bulletin recently issued by the Virginia Experiment Station gives the analyses of stock and poultry powders and condimental foods, showing that poultrymen are often paying all the way from $250 to $1,000 per ton for these poultry foods.

Corn meal mixed with a little charcoal, cayenne, a bitter drug, and sulphur, says Prof. Dryden, of the Utah Experiment Station, sells for $1,000 per ton. Corn meal is good for poultry, but no sane man would pay a thousand dollars a ton for it. Charcoal is good in small doses, but it is cheaper than corn meal. Cayenne and sulphur may be good when used as medicine, but certainly not as a regular part of the ration. This mixture that sells for $1,000 is probably worth no more than $50 per ton put up in packages. The same may be said of the other foods analyzed." No more need be said. The wise will let the high priced poultry foods severely alone.

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The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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PROF. W. F. MASSEY, Editor.

Philadelphia, November 14, 1903

The Business Management requests us to call attention to the notice at the foot of the next page, by which every subscriber who sends one dollar for their renewal subscription before Dec. 1st next, will receive free a copy of The Practical Farmer Almanac. Every year in the last half of December the office force is overwhelmed with the flood of new and renewal subscriptions, which keeps it busy day and night during that time. Every renewal subscription received before Dec. 1st helps to relieve this pressure; the Business Management therefore makes it an object for our friends whose subscriptions expire on or near Jan. 1st, next, to send their renewals as soon as they read this paragraph. Please do this.

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Importance of Humus.

Some years ago the enthusiastic editor of the "American Fertilizer" told us to give humus a rest, and that commercial fertilizers would do all the work needed. But to show that we have been right all the time in urging the importance of humus in the soil in making the use of fertilizers profitable, we call attention to the results obtained at the Tennessee Station and noticed this week in the Cream of the Bulletins. In these experiments it was shown that 15 tons of stable manure per acre increased the yield of wheat on bare fallow 10.71 bushels per acre, while fertilizers alone on a poor soil failed to increase the yield more than from three to five bushels, and in a dry season were used at a loss. And yet all over the country, and especially in the Middle South, men are depending on 150 to 200 pounds per acre of complete fertilizer on poor land, and wonder that the yield of wheat is so small. The Tennessee experiments also showed that where cow peas were plowed down there was an increase in the wheat crop of five to eleven bushels per acre in a favorable season, and from three to eight in a dry one. This all shows the importance of humus in conserving the moisture in the soil. The fertilizers applied to the poor soil doubtless had more available plant food than the stable manure, but associated with the stable manure was a large amount of humus-making and moisture-retaining vegetable matter, and the plant food was better dissolved, while in a dry season the fertilizers alone were wasted. This is the point on which we have insisted for years. Land destitute of humus seldom returns a fair profit from the use of commercial fertilizers, especially in a dry season, because of the lack of moisture to dissolve it, while in a soil abounding in vegetable decay at the same time the results from fertilizers will be good. There is no better argument for the use of a good rotation and legumes than the results Prof. Soule secured in Tennessee.

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Fall Plowing.

In Northern sections, where the soil is closed up by frost during the greater part of the winter, and the spring work is apt to be very much hurried, it is always best to plow land in the fall and to get the mellowing influence of the freezing, even if there may be some slight loss of nitrates from the soil. The fine condition of the soil for spring seeding will compensate there for any such loss. But in milder climates, where fall plowing is of as much importance as in the colder sections, and the soil in the fall is always in a better condition for deep plowing and subsoiling, the land should never be left bare in winter. All over the South there is far more rain than freezing in winter, and bare land loses rapidly. Hence, though it is advisable to break all the land possible in the fall, the breaking should be accompanied by the sowing of some hardy green crop to catch the fleeting nitrogen during the winter. This, of course, involves the replowing of the land in the spring, but there is always plenty of time in the South for this, and the green winter crop, even if only rye, will add organic matter to the soil and pay well for the replowing. Rye can be sown all over the South as late as the middle of December and make a winter cover and a crop to plow under in the spring, the only time a green growth should be plowed under there. If all the cotton fields in the South, which commonly lie bare all winter, were covered with a green growth there would be far less wasting of the soil in the winter rains, and even the continual growing of cotton would impoverish the land less if the soil was bearing a green winter cover to be returned to the land in the spring. Of course a legume crop is better than rye, but the sowing of crimson clover must be much earlier than rye can be sown, and it is a good practice to sow it among the standing cotton in September or October and if it fails there is still time to sow the rye. Break all the land you can in the late fall, but always use a winter cover crop to conserve the plant food in the land and return it to the soil.

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Protect the Birds.

We have long considered the English sparrow an unmitigated pest. But the sparrow is doing better, and this summer we have watched them eating insects. Our attention was first called to the fact that there were green pea aphides on our garden peas by seeing a sparrow on the peas picking away at them. We thought at first that he was picking the green pods, for he is charged with doing this in England. But we soon found that he was picking the plant lice off, and we then made up our mind that we would try to stand the mischief these little fellows do at times, if they will but help take the bugs. The sparrows have been charged with driving away our native birds that nest around the buildings, but we are not now so sure even of this, for since we have strictly forbidden any shooting about our grounds, which are covered with great old trees, we have found that birds of all sorts are far more plentiful. That is, our native birds are, while the sparrows seem more retiring. The squirrels have a special animosity against the sparrows, and they have driven them from their building nests under the eaves of the buildings, while they never seem to interfere with the nests of any other bird. The potato bugs have been less abundant than usual, and if the birds would prevent their eating the tops down entirely we would stop using poisons, for there are a number of predatory insects fighting the potato bugs, and between these and the birds the potato beetles would soon be destroyed if we could afford to wait. There is great complaint of the robin in the North eating the cherries. We only wish the robins would stop and nest with us, which they seldom do. The secretary of the North Carolina Audubon Society says that he saw a chipping sparrow catch thirty insects in one minute. There are plenty of birds that eat more than their weight in insects daily, and the farmers of the country do not realize as they should the great help the birds are to them in the fight against insects. Every farmer should get and study Farmers' Bulletin No. 54, issued by the Department of Agriculture, Washington, D. C. Write to the Secretary for it. Its title is "Some Common Birds in Their Relation to Agriculture."

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Why Does Not the South Grow More Hay?

We have been studying the statistics of the United States Department of Agriculture, and they show some very interesting figures. The average yield of hay per acre in the State of Iowa, which is one of the best hay and stock States, was 1.33 tons per acre, for ten years. The average yield of hay during the same time in North Carolina was 1.46 tons per acre. During the same time the average value per acre of hay in North Carolina was $15.14, while the average value per acre in Iowa was $7.31. And yet Iowa devotes thirty times the area to hay that North Carolina does, and the towns and cities in North Carolina are largely supplied with Western hay. The difference in the yield of hay in North Carolina and Iowa is not due to the land in North Carolina being richer than that of Iowa, for it is not so rich. But it is due to the greater rainfall and the longer season, which permits the growing of more crops on the same land. Hay sells in North Carolina at a higher price by far than in Iowa, and if the farmers of Iowa can afford to grow millions of tons of hay while North Carolina grows a hundred or two thousand tons, while the hay in Iowa is worth less than half per acre what it is in North Carolina, it is evident that the farmers in North Carolina are losing an advantage which their climate gives them. The average value of the cotton crop in North Carolina is not greater than the average value of the hay crop per acre, while the production of the crop costs far more than the production of hay. Then, too, North Carolina can produce immensely more of protein yielding hay than Iowa can, and hence of a higher feeding value. Iowa is one of the greatest stock feeding States in the whole country, while North Carolina is one of the smallest in this industry, though she can produce more hay and hay of a higher feeding value than Iowa. For instance, we grew the past season nearly two tons per acre of hay from wheat and hairy vetch, and on the same land later in the season had two tons per acre of cow pea hay, making four tons of hay of a high protein content, and higher feeding value than hay grown in Iowa. We use North Carolina as an example of the low production of hay and have compared the State with one with the highest production to show that the South can grow hay to better advantage than the West, for the same conditions that make hay profitable in North Carolina exist in the other Cotton States. It is also worthy of note that the crops from which the hay of the highest feeding value can be made are the crops that will tend more to the development of the productiveness of the land in the staple crop of cotton, and it is evident that the production of cotton could be greatly increased per acre by the growing and feeding of legume hay and the use of the resulting manure. With the markets of the South supplied with Western beef and Western hay the farmers go on making an average of about 0.38 of a bale of cotton per acre, when by the growing of legume hay and feeding it in a good rotation of crops it should be easy on any good cotton land to make a bale to a bale and a half per acre.

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The Cream of the Bulletins.

Agricultural Experiment Station of the University of Tennessee, Knoxville, Tenn. Bulletin No. 4, Vol. XVI. Influence of Climate and soil on the Composition and Milling Qualities of Winter Wheat. By A. M. Soule and P. O. Vanatter.

This is a beautifully illustrated bulletin giving the results of experiments with 48 varieties of winter wheat in Tennessee. The tables show that out of the list there were very few varieties of great excellence for the locality. We cannot do better for the purpose of explaining the results than to copy the summary given in the bulletin, as nearly as practicable: 1. Of the 48 varieties of wheat grown on the Station farm for the past four years a limited number only can be recommended for general culture. 2. Poole made the highest yield in 1903, 48.5 bushels; average for four years 37.23 bushels. Niger made 44.27 bushels in 1903 and an average for four years of 36.77 bushels. Fulcaster made 39.27 bushels in 1903, and averaged 36.2 bushels for four years. Mediterranean made 42.55 bushels in 1903, and averaged 30.18 bushels for four years. 3. Early Red Clawson, White Wheat No. 6, Winter King, Eclipse, New Monarch, Gold Coin, Dawson's Golden Chaff, American Bronze and Beardless Fulcaster have been discarded as unsuitable varieties after four years trial. Poole is the only variety from outside the State that can be recommended for general use. 5. Poor yields by Tennessee farmers are due to the failure to rotate and to prepare the seed bed properly, a deficiency of vegetable matter in the soil, late seeding and unsuitable varieties. 6. The climate and soil of Tennessee favor the production of wheat containing a very high percentage of protein. The average percentages of protein in Mediterranean and Fulcaster were 17.39 and 17.00 respectively at the end of four years. All the varieties were high, Dawson's Golden Chaff being the lowest, with 13.19 per cent. 7. The season has a marked effect on protein content. Beech Wood's Hybrid contained 21.92 per cent. in 1900, and but 15 per cent. in 1903. 8. Protein content was highest in 1900 and 1902, when the rainfall was deficient during the ripening period. This gave a short, quick ripening period, retarding the elaboration and transference of the starch from stems to grain, and so increasing the protein percentage. 9. A rich soil or the use of large quantities of commercial fertilizer or farm yard manure does not seem to increase the protein content to an appreciable extent. 10. The percentage of flour produced by Tennessee wheat is high, the leading varieties being equal to or superior to those most commonly grown in other sections. Fulcaster averaged 73.4 per cent. 11. Some of the hard varieties are not equal in color to the soft white wheat, but they contain more gluten, and are preferred by millers, and farmers are advised to grow them. 12. The number of loaves from Tennessee flour per barrel equals or exceeds that from wheat in other sections. The statements in the bulletin show emphatically that Tennessee produces a superior quality of wheat for milling and bread making purposes; that climate and soil conditions adapt the State admirably for wheat production; that cereal growing should be a leading agricultural industry; and the statements to the effect that Tennessee is not a good wheat producing State, when the soil is rationally treated, are not well founded. To maintain and improve the standard of any variety the seed must be carefully graded, and selections made from the best type heads in the field. Large increase will not be immediately obtained by the selection of type heads, and the work should not be undertaken unless it can be carried on systematically for a series of years. Fertilizers give their best results on a soil well supplied with vegetable matter. It is easy to use fertilizers at a loss unless the character of the soil is well understood. Many impoverished soils can be made profitable for wheat production by the plowing under of cow peas and the liberal application of phosphate, potash and lime. Soils tilled for many years are often acid, and lime corrects this fault. Farm yard manure, applied at rate of 15 tons per acre increased the yield of wheat on bare fallow 10.71 bushels in 1902. Fertilizers alone, on a poor soil, failed to increase the yield more than from three to five bushels, and in a dry season they were used at a loss. When cow peas were plowed down the increase varied from five to eleven bushels in a favorable season, and from three to eight in a dry season. Cow peas, when sown as a catch crop, can be counted on to increase the yield of wheat several bushels per acre.

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CONTENTS

AGRICULTURAL.—Success on a Run-Down Kentucky Farm.—Dehorning.—Give Full Measure.—Health Hints.—How to Enjoy Old Age. 305
The Importance of Clean Seed and Sowing the Best Kernels.—Colds, Catarrh, Etc. 306
Potato Culture in the South. 307
QUERIES.—Fertilizer for Strawberries.—Rice Growing in Texas.—Red Spider on Cotton.—Farming in S. E. Missouri. 307
LIVE STOCK AND DAIRY.—Developing a Dairy Herd.—Dairy Experiments. 308
VETERINARY.—Loosened Teeth.—Worms.—Warts.—Cough.—Periodic Ophthalmia.—Remedy for Warts. 309
GARDEN.—Talks on Timely Topics.—A New Boom for the New Onion Culture.—Notes from a Carolina Garden. 310
HORTICULTURAL.—Thinning Out Forest Trees.—Horticultural Queries.—Osage Orange. 310
Apple Orchard.—Saving Walnut Tree.—Horticultural Notes. 311
POULTRY.—Seasonable Suggestions.—Poultry Houses.—Patented Lice Exterminators and Poultry Foods. 311
EDITORIAL.—Importance of Humus.—Fall Plowing.—Protect the Birds.—Why Does Not the South Grow More Hay? 312
CREAM OF THE BULLETINS. 312
COMMERCIAL. 313
HOME CIRCLE.—George Grey Barnard.—In the Kitchen.—One Woman in the House.—Along Club Lines. 314
What Shall Our Women Do?—Among the Flowers.—Correspondence.—Youth's Parliament. 315
OUR EXPERIENCE POOL.—Topic No. 598.—In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring? 316
SHORT CUTS BY P. F. SUBS.—Waist Hanger.—Grape Juice a Short Cut to Health.—Ornamental Trifles from Seeds, etc.—Growing Shade Trees.—Buying Shoes for Women.—Raking Lawns.—Keep the Scythe Sharp.—Short Cut for Household Repairs.—To Sharpen Old Files. 317
MISTAKES, FAILURES AND SUCCESSES.—Rye and Peas.—Chicken Cholera Considered.—Caramel Cake Filling.—Mouth Wash.—Selling Straw.—To Keep Weevils Out of Seed Beans.—Substitute for Nursery Chair.—Tobacco as a Money Crop.—Growing Corn.—How we Make Corn Bread.—Helpfulness vs. Faultfinding.—Clean Coops.—Picking Fowls. 318
POSTAL CARD CORRESPONDENCE. 320

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

November 7, 1903.

Wheat was dull and weak, exporters holding off and advices from the West being weak. Corn was steady under moderate offerings. Oats were in ample supply and the market was weak. Receipts of live poultry were liberal, but choice stock ruled steady with a fair demand. There was a fair demand for choice lots of dressed fowls and chickens, prices of which ruled steady under moderate offerings. Much of the supply was of unattractive quality. Turkeys were in light supply and firm. The supply of fine creamery butter was pretty well cleaned up and prices ruled steady. Defective qualities had to be sharply shaded to effect sales. Extra prints were unequal to the demand. Receipts of strictly choice eggs were light and there was no trouble in disposing of them. Most of the supplies were of unattractive quality. The mild weather restricted business in refrigerator eggs. The cheese market was quiet, offerings light and prices steady. Apples were firm with moderate offerings of choice barreled fruit. Pears, grapes and cranberries were in moderate supply and prices were steady. White potatoes were in light receipt and prices ruled steady. Onions and cabbage were in fair request and steady. Dried beans were weak under increasing supplies. Cotton advanced under the influence of higher Liverpool and home advices. Manufacturers, as a rule, are believed to be lightly stocked, but are not buying extensively. They are on the lookout for "bargains" which are hard to pick up. While trade has not fully reached the dimensions usual at this season, a cheerful feeling prevails among dealers, who are looking confidently for an early improvement in the demand for wool, based on an expected increase in duplicate orders for light weights. Feed was quiet but steady under small supplies. The demand for baled hay was fairly active and supplies of desirable grades were kept well cleaned up at steady prices.

WHEAT.—			
No. 2, red, spot and Nov....	82¼	@	82½
No. 2, Penna. and Del.	83¼	@	83½
No. 3, red	77¼	@	77½
CORN.—			
No. 2, spot	49½	@	49¾
No. 2, yellow	53		
No. 3	47½	@	47¾
OATS.—			
No. 2, white natural	41½	@	42
No. 2, white clipped	42½	@	43
LIVE POULTRY.—			
Fowls, hens, per lb........	11	@	12
Roosters, per lb.	8		
Spring chickens, per lb......	11	@	11½
Ducks, per lb.	11	@	12
Turkeys, per lb.	12	@	14
DRESSED POULTRY.—			
FRESH KILLED.			
Fowls, choice, per lb.......	12		
Fowls, average, per lb.	11	@	11½
Old roosters, per lb.	9		
Chickens, nearby, per lb....	13	@	14
Illinois, d. p., fancy, lb..	13		
Western, d. p., fancy, lb..	12		
Spring turkeys, fancy, lb..	17	@	18
BUTTER.—			
West. cream'y 1sts to extra	21	@	22½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	21	@	23
Prints, Western	19	@	22½
Imitation creamery	16	@	18
EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
Nearby 1sts, ret'bl crates, L	29		
Western 1st, free cases..L	27	@	27½
No. West., 1sts, free cases, L	28		
So. West., 1sts, free cases, L	26	@	27
So. choice, free cases.....L	24	@	25
Refrigerator, firsts ......M	21	@	21½
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	11¾	@	12
Fair to good	11	@	11½
State, part skims, prime ...	8½	@	10
Domestic Swiss, No. 1......	12	@	13
Domestic Swiss, No. 2......	10	@	11
GREEN FRUITS.—			
Oranges, Fla., bright, box..	2.50	@	3.00
Oranges, Fla., russets, box.	2.25	@	2.75
Grapes—			
N. Y. Concord, 4-lb. bas..	14	@	15
N. Y. Concord, per 100 lbs.	2.25	@	2.50
N. Y. Catawba, 4-lb. bas..	14	@	15
Niagara, 4-lb. bas	17	@	19
Cranberries—			
Cape Cod, large late, bbl.	7.50	@	8.50
Cape Cod, early Bl., bbl..	7.00	@	7.50
Cape Cod, early Bl., crate	2.25	@	2.50
APPLES AND PEARS.—			
Apples—			
N. Y. Snow, per bbl	3.00	@	3.50
Kings, per bbl.	2.50	@	3.00
Pippins, per bbl.	1.75	@	2.50
Greenings, per bbl.	1.75	@	2.25
Baldwins, per bbl.	1.75	@	2.25
20-ounce Pippin, per bbl..	2.00	@	2.75
Pears—			
N. Y. Kiefer, per bbl......	2.50	@	3.00
N. Y. Seckel, per bbl......	6.00	@	8.00
Howell, per bbl.	3.50	@	4.00
Duchess, per bbl.	3.50	@	4.00
Sheldon, per bbl.	4.00	@	4.50
POTATOES.—			
White, Pa., choice, per bu..	62	@	65
White, N. Y., choice, per bu.	58	@	62
Fair to good..............	53	@	55
Sweets, Jersey, prime, bas..	30	@	40
Sweets, seconds, per bas...	10	@	15
VEGETABLES.—			
Onions, Western, per bu....	55	@	65
Cabbage, N. Y., per ton....	10.00	@	13.00
Cauliflower, L. I., per bbl..	1.00	@	1.75
Cucumbers, Fla., per bu....	2.00	@	3.00
Eggplants, Fla., ½-bbl. crate	2.50	@	3.25
BEANS AND PEAS.—			
Beans, mar., H.P., 1902, bu.	2.70	@	2.85
do mediums, H.P., 1902..	2.20		
Pea beans, H. P., 1902, bu..	2.00	@	2.15
Imported pea beans, per bu.	2.00	@	2.10
COTTON.—			
Cotton, per 100 lbs........	10.85		
FEED.—			
Bran, bulk, winter, per ton.	19.50	@	20.00
Bran, sacked, spring......	19.50	@	20.00
HAY AND STRAW.—			
Timothy, No. 1, large......	15.50	@	16.00
Timothy, No. 1, small......	15.50		
Timothy, mixed	12.50	@	13.50
Clover, No. 1	12.00	@	12.50
Straw, straight rye	19.50	@	21.00
Oat	10.50	@	12.00
Wheat	10.50	@	12.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle slow and lower.			
Best steers	5	@	5¼
Good steers	4½	@	4¾
Medium steers	4	@	4¼
Common steers	3¼	@	3¾
Veal calves about steady for best grades.			
Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4
Hogs slow and lower.			
Fat hogs, Pa., Del. & Md...	6	@	7
Fat hogs, Western	7½	@	7¾
Sheep and lambs quiet.			
Sheep, extra	4	@	4¼
Sheep, good	3½	@	3¾
Sheep, medium	3	@	3¼
Sheep, common	2	@	2½
Lambs	4	@	5¾

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NEW YORK MARKET REVIEW.

November 7, 1903.

The market for spot wheat was strong, while futures were comparatively dull. Cash corn was firm, and futures were in sympathy with it. Oats were firm with the local trade buying in fair quantities. Hops were firm both up the State and on the Coast. Hay was steady and straw weak. Arrivals of butter were small, but trade was quiet, and there was a demand for only pressing requirements. Strictly fine stock is firm. Trade in cheese is drifting, as usual at this time of the year. Choice eggs are in light receipt, but medium and low grades are in large supply. Fancy refrigerators are strong. Offerings of live poultry exceed the demand, except turkeys, which are scarce and firm. There is little or no improvement in the dressed poultry situation. The weather has been against the market. Receivers have been trying for several days to get the market out of its demoralized condition. Recent advances in price of spring turkeys have attracted heavier shipments. Choice apples are in demand, but for those of indifferent quality almost any price was accepted. Pears and cranberries were firm. White potatoes are firm and prices are higher. Sweet potatoes steady.

WHEAT.—			
No. 2, red................	85¼	@	85⅝
No. 1, No. Duluth, f. o. b..	88⅛		
CORN.—			
No. 2, yellow	54½		
No. 2, white	52		
OATS.—			
No. 2	43½		
Standard white	43½		
No. 2, mixed	41	@	41½
HAY AND STRAW.—			
Timothy, new, per cwt......	90	@	92½
Timothy, No. 1	85	@	90
Clover	60	@	65
Straw, long rye, per cwt....	90	@	1.00
HOPS.—			
New York State, 1903, lb..	24	@	32
Pacific Coast, 1903, per lb..	21	@	29
German, 1903, per lb......	55	@	65
BUTTER.—			
Extra creamery	22½		
West. extra factory	15		
State dairy	15	@	20
Packing stock	12½	@	14½
Imitation	15	@	18
CHEESE.—			
State, f. c., small, fancy....	11¼	@	11½
Good to prime	10½	@	10¾
Large colored, fancy	11	@	11½
Light skims	7¾	@	9¼
Full skims	1½	@	2
EGGS.—			
QUOTATIONS AT MARK.			
Nearby fancy, selected.....	33	@	35
State & Pa., fancy	28		
State & Pa., seconds	22	@	26
Western extras	27		
Refrigerator	18	@	21½
LIVE POULTRY.—			
Chickens, per lb...........	10		
Fowls, per lb.	9	@	10½
Roosters, per lb.	6	@	6½
Turkeys, per lb.	12	@	13
Ducks, West., per pair.....	60	@	75
Geese, West., per pair	1.25	@	1.37
DRESSED POULTRY.—			
Turkeys, spring, d. p., lb...	12	@	16
Scalded, per lb	12	@	15
Old, mixed, per lb.......	16	@	17
Broilers—			
Phila., fancy, large, lb...	20	@	22
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	10	@	10½
West., d. p., av. best, lb..	10½	@	11
Chickens, Phila. fancy, lb...	18	@	19
State and Pa., fancy, lb.	14		
State and Pa., poor, lb...	8	@	10
Spring ducks, L. I., per lb.	18		
Eastern, per lb..........	18		
Jersey and Pa., per lb...	16	@	18
Spring geese, Eastern, lb...	17	@	18
Squabs, per doz.	1.75	@	3.50
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl......	2.00	@	2.75
Spitzenberg, per bbl.	2.00	@	4.00
Crab, per bbl.	2.00	@	4.00
Greening, per bbl.	1.50	@	2.50
Tallman Sweet, per bbl..	1.50	@	2.25
York Imperial, per bbl...	2.00	@	3.00
Hubbardston, per bbl....	1.75	@	2.50
Pears—			
Common, per bbl.	1.50	@	2.50
Bartlett, per bbl.	3.00	@	6.50
Buerre d'Anjou, per bbl..	2.00	@	3.50
Louise Bonne, per bbl...	1.50	@	3.00
Seckel, per bbl.	4.00	@	8.00
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, 4-lb. bas..	12	@	20
N. Y. Concord, 4-lb. bas..	12	@	15
N. Y. Catawba, 4-lb. bas..	14	@	15
N. Y. Salem, per 4-lb. bas.	12	@	13
Up-river, crate, Concord..	90	@	1.00
Wine grapes, black, ton....	50.00	@	55.00
Quinces, per bbl.	2.00	@	5.50
Cranberries—			
Cape Cod, bbl.	7.00	@	8.50
Cape Cod, crate	2.25	@	2.35
New Jersey, bbl.	6.50	@	7.00
New Jersey, crate	2.00	@	2.25
POTATOES.—			
L. I., per bbl.	1.75	@	2.12
Jersey, per bbl.	1.62	@	2.00
N. Y. and Maine, per bag....	1.75	@	1.85
Sweet potatoes, Jer, per bbl.	1.50	@	2.50
Southern, per bbl.	1.00	@	1.25
VEGETABLES.—			
Brussels sprouts, per qt....	6	@	10
Carrots, per bbl.	1.00	@	1.50
Cabbage, domestic, per ton..	9.00	@	12.00
Tomatoes, Jer. & Del., box	50	@	1.00
String beans, Va., per bas..	1.75	@	2.50
Squash, Hubbard, per bbl...	1.00	@	1.25
Cucumbers, per bbl.	1.00	@	4.00
Cucumbers, Fla., per bas...	2.25	@	3.25
Cauliflower, per bbl.	50	@	2.00
Celery, per doz.	10	@	40
Eggplants, per box	2.00	@	4.00
Lettuce, Boston, per doz....	30	@	65
Lima beans, potato, per bag	1.00	@	1.50
Onions, white, per bbl......	2.00	@	5.00
Red, per 150 lbs	1.50	@	2.00
Yellow, per bbl.	1.25	@	2.25
Peppers, per bbl.	75	@	1.25
Pumpkins, per bbl.	50	@	75
Parsnips, per bbl.	1.50	@	2.00
Spinach, per bbl.	75	@	1.25
Turnips, per bbl.	75	@	1.00
BEANS AND PEAS.—			
Beans—			
Marrow, 1903, choice, bu.	2.90	@	2.95
Medium, 1903, choice, bu.	2.20		
Pea, 1903, choice, per bu.	2.15		
Lima, California	2.25		
Green Peas—			
Scotch, 1903, bags, per bu.	1.30		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above..............	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood ...	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

George Grey Barnard.

JOAN JAY.

George G. Barnard, the sculptor to whom the Pennsylvania Capitol Commission has entrusted all the sculpture on the great edifice the State is building, one of the largest commissions ever given to an American sculptor, is a native of the State which has thus honored him. He was born in Bellefonte the 24th of May, 1863. When a youth in his teens his father, the Rev. J. H. Barnard, was called to the First Presbyterian Church in Muscatine, Iowa, where the boy first began to show his remarkable talent. At this time, while not considered a prodigy, he was distinguished by a strong individuality, and was endowed with a genial disposition which won him many friends. He was blest with a love for nature, and instead of engaging in boyish games and pastimes with his companions, would take long, solitary rambles through the fields and woods.

He was about 18 years old when he was apprenticed to a jeweler in Muscatine, and many of the residents of that city remember the dark eyed, curly haired boy who sat at the jeweler's table industriously working away; but little did they dream of the wonderful possibilities the future had in store for him. His mind was filled with other things than repairing watches and clocks, and many little articles of an artistic nature were fashioned by his budding genius, which has grown and developed until he stands in the front rank of the world's great artists.

An etching of a bird on copper, done by the use of the ordinary tools of a jeweler, was his first work that attracted local interest. Later a bust, done in clay, of the daughter of a wealthy citizen of the town, compelled admiration, and his friends realized that he was becoming serious in his work, and that he possessed genuine talent. So they made it possible for him to enter upon a course of study at the Chicago Art Institute, where he remained one year. Then he went to Paris, where he studied at the Ecole Nationale des Beaux Arts from 1884 to 1887; then in his own studio for seven years longer, before he would exhibit any of his work. The history of these eleven years is a story of a long, cruel struggle with bitter poverty and hard work, which was finally rewarded by unbounded success. His intense application brought on periods of discouragement and depression when he would be tempted to throw up everything, but his indomitable will forced him to persevere. During these years of study and hard work he produced and then destroyed no less than sixty statues, that would be valuable now, because they did not come up to his ideal, which was the highest. He was striving for true art, and considered it too sacred and precious to be given over to a mere matter of bread winning.

At last he yielded to the earnest entreaties of his friends, and consented to exhibit at the Paris Salon in 1894, when recognition, fame, honors and wealth, such as rarely come to so young a man, were his, and he was named Associe Societe Nationale des Beaux Arts. His recognition would have come years before had he not refused time and again to exhibit his works at the Salon.

While Paris was striving to do him honor, and had opened the doors of her homes of wealth and culture to him as a social lion, he sailed for his native land, saying: "I love my country, and desire to give whatever I possess of genius to American art."

He exhibited at the Paris Exposition in 1900, and received the highest honors and a gold medal. His works are characterized by great originality of thought and treatment. He follows no master, but works according to his own particular light. His best known works are: Brotherly Love; Norway; The Two Natures (this masterpiece now in the Metropolitan Museum, New York); Group; The God Pan (in Central Park); The Girl and Pedestal, and The Hewer.

Mr. Barnard gives it as his opinion that genius consists of three things, viz.: Love of work, work, and right conditions. He believes that in almost every intelligent boy and girl there is a bent in some direction, which should be encouraged and developed, and the life work of the child be directed along the line of what it likes best to do. This properly followed up will lead to the highest possible attainment on the part of each.

Mr. Barnard still holds to his high ideals and will not consent to do inferior work. He has refused many thousands of dollars in orders for public works, because he would not consent to turn out a certain amount of work in a given time, regardless of the demands of true art. His studio is on the banks of the historic Hudson River. He is happily married and has a beautiful home in New York City. The success he has attained has not turned his head. He is as frank, courteous and unassuming as ever, a splendid type of American manhood, noble, patriotic and Christian, who feels that the great work of his life is still before him.

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In the Kitchen.

BEATRICE TURNER.

GINGER COOKIES. — One-half teaspoonful each of salt, soda and ginger; three tablespoonfuls of boiling water, three of melted lard; put in a teacup and fill up with molasses. Add flour to make stiff dough, roll and bake in hot oven. They are excellent.

TO PRESERVE LEMON JUICE.—When lemons are cheap, purchase several dozen at once. Extract and strain the juice, to which add a pint of water and a pound of sugar to the juice of each dozen lemons. Boil ten minutes; then bottle and set in cool place. Use 1 or 2 tablespoonfuls in a glass of water.

* * * * * * * *

Mrs. M. C. M., Denton, Pa., writes: A nice way to dry apples is to take a paper flour sack, rip it open and spread in the bottom of cooking stove oven. Now put on your cut fruit and leave one oven door open. This is a quick and neat way to dry fruit where fire is kept most all day.

An item of saving in making grape butter is to thicken with some easy cooking sweet apples. I cook the grapes, shake them through a wire bucket to remove seeds and skins, then have prepared an equal bulk of mellow, sweet apples (I used Jersey Sweets), and add to your grape sauce. If not convenient to use apples, if you add about one bottle of essence of cinnamon to four or five gallons of butter, it will save at least one-fourth of the sugar otherwise required. If the bottom of the large butter kettle is rubbed over inside with a little butter before putting on fire it will not be so easily scorched.

When canning apples for winter pies, prepare them as for immediate use. Have a kettle of water boiling on the stove, put in enough of the prepared apples for one can. Let them just come to the boil, skim out into the can, fill full with the boiling water and seal. They are much nicer for pies than the canned apple sauce.

Mrs. B. Marick writes: I find the safest way to put up green corn is to cut it from the cob raw, pack in a jar, with as much salt as corn; put a weight on to keep under brine. In winter soak over night in clear water, then cook in fresh water until it tastes all right. Pour off and finish with butter, or in any way desired.

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One Woman in the House.

LILIAN W. GILBERT.

In many households there is only one woman, and my object now is to write for the help and encouragement of this overworked, much enduring individual. I wonder if those who have never been obliged to try it have any idea that one woman can cook, milk, churn, sew, patch, darn, sweep, dust, wash and iron, besides the hundred other little duties that devolve on the mother of a family. I know many who do all these things and I believe they could have lightened this work greatly if they had only looked at things a little differently. They attempt the same spotless perfection shown in Mrs. L—'s house, overlooking the fact that Mrs. L— puts out her washing, and besides, has no little ones to cut up paper over the floor, tie stick horses to bed posts or whittle shavings on the porch. Though such a house is desirable, it is not possible for one woman to do all her work and keep up the constant dusting and polishing required to have a house in this shining, dustless state. Be satisfied with a degree of cleanliness consistent with health; give the rooms used most a thorough cleaning as often as you can, but do not feel compelled to do it every day. No sensible person will regard you as a slattern simply because the dust collects for a day on your dresser. If you are busy a whole forenoon in the kitchen and the beds go unmade, that is no crime. Then do not furnish your room with a lot of bric-a-brac that requires much moving and dusting. Use the same little plain pillows on your bed in daytime that you use at night, leaving the tucked, beruffled shams and pillow cases for your company bed room. Then use simply shades at the windows instead of the white curtains that require washing, starching and ironing besides being shaken out and dusted often when the room is swept. But you will say you love a pretty room. So do I, but I like to see the tired mother have a little time to rest and not be like some that I know who go until they drop asleep while talking to company, they are so tired out. Mothers, save your strength, your children will need your love and care as they grow up more than they need shining windows and spotless floors now. Raise help by beginning with the boys when they are quite small—say four to six. Teach them to sweep the porch, to make their own little beds, to wash dishes. But some say, "I cannot have my dishes messed over by children." If you wear yourself out the time is coming when you will have to let them "mess," so why not begin while you are out of the bed and able to direct. Show them how you do things, but do not expect perfect work at first, but encourage them to try again. True, it is much easier to do it yourself than to teach them, but if you will keep on you will find many things off your hands that will be done quite as well as you would do them. Teach the boys to cook; it will take time, but it is time well spent. Then if you should be sick or want to go for a day's visit there will be someone besides yourself who can prepare a meal. It would be well for many housekeepers to remember that "Life is more than meat and the body than raiment."

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Along Club Lines.

V. C. M.

Etta MacFarlane, La Plume, Pa., writes: "Will you please, through the P. F., give some description of the Bay View Reading Course for literary clubs?" We are so fortunate as to have before us a circular sheet fully explaining the above course, from which we briefly quote: "The Bay View Reading Club aims to provide a choice reading course after an improved educational plan, and to promote habits of home study. It is for people of too limited time for elaborate courses, and who are yet ambitious to advance in intelligence, and would like to turn their spare moments to good account. It is for people who want to enlarge their world by studying outward and upward into inspiring subjects. The club was started in 1893 to meet the wide demand for a thoroughly directed, short and low-priced reading course. It has now a membership of over 10,000, with over 800 local clubs. The Bay View Club offers a definite and systematic course, with helpful reviews and examinations. It encourages habits of thoughtful reading and of saving time. It fosters a literary spirit, opens an avenue for superior social life, and cultivates among the members something of the college spirit. It is a four-years course, each year a separate and complete year, that may be taken with or without the others. * * * The reading averages only 32 pages a week for seven months."

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THE ENTERPRISE MFG. CO. OF PA., Philadelphia, Pa.

The German course contemplates, for 1903 and '04, spending six months in Germany and two months in the delightfully interesting kingdoms of Belgium and Denmark. There are three books, but at the time this circular came out but two had been selected. Our club has the entire set, and we will get the name of the third, if possible, before sending this article. "History of German Literature," by Prof. R. W. Moore of Colgate University; "German Life in Town and Country," by William H. Dawson.

A few of the attractive themes to be developed in the magazine, by pen and picture, will be the celebrated cities of Germany, Germany's magnificent music, German art and the art treasures of Dresden, Berlin and other cities. Much time will be given to the renowned schools and universities, German customs, and their highly organized industrial life. Two numbers will be devoted exclusively to Belgium and Denmark, studying the quaint peasant life, the glories of Flemish art, and the grand old cities of Antwerp and Copenhagen. Price of this course is $3.50. Over 400 women's clubs have adopted it. There is much more explanatory matter on this sheet, which may be obtained by addressing Anna B. Smale, Central Office, 165 Boston Boulevard, Detroit, Mich.

We cannot urge upon you too earnestly the necessity of organizing some kind of a literary club in your midst. Don't mind the Chicago doctor, divine, or whatever he is who says that woman's clubs tend toward hell; he has been misinformed—that is all. In our town one of our most intelligent and active club women is almost 84 years old, and there are a number from 75 to 80. Beautiful in form and face, faultless in dress and bright in mind, these women are studying and growing, fully determined to live while they live. Now-a-days the grandmother, or ofttimes the great grandmother, is as much abreast of the times as the granddaughter just home from college. This is as it should be.

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—The programme for the Twentieth Century Club meeting, for Oct. 19, was as given below:

"Men will wrangle for religion, write for it, fight for it, anything but live for it."

Roll Call German Writers
Reading of Minutes
Business Critic's Report
Defeat of the Romans by Arminius
Duet
Charlemagne and his Empire
Discussion....Club
Hostess

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What Shall Our Women Do?

MRS. J. C. HODGE.

It has been more than half a century since women could find profitable employment at home by using all their time making cloth of different kinds for the use of the family, and a web occasionally to sell to buy some "Sunday dresses" for themselves. Now one factory can make more cloth in one day than all the women in a county could make in twelve months. So that industry (thanks to the inventors) has been transferred from the home to the factory. But it does not require so many hands now, and what must the great number left idle do? Some who are wealthy can make fancy work, go to entertainments, read, or anything they like. But the larger number must earn something. The brothers, as soon as they are old enough, quit the old home and go out to work for themselves. Father is old and worn out with long serving and his wages are only sufficient to supply the table and perhaps pay rent. Or, if it is a country home, there is no one to cultivate the land. Must the daughters go out, and through the long, hot summer days plow and sow and reap? Nay, for we are told that "woman is the weaker vessel," and but few of them are physically able for such employment. Then "where with all" shall she be clothed? But I hear a great host of voices saying that matrimony is the proper solution of this question. So I say, too, if a suitable opportunity offers. But this may not happen, for the young lady must wait for the swain to "come a wooing," and if he happen to be one suited to her liking there is sure to be a wedding. When did you ever hear of a lady refusing a good opportunity? But if her judgment and her taste make him repulsive to her, she must refuse, and wait for another, for society would be shocked, and the young man himself would laugh her to scorn if she should go wooing a suitor of her own selection. But while she is waiting for a suitor her necessities are increasing—she must have adornments or fail to be attractive. But many are saying she must not take a position in a dry goods store, or as stenographer in some gentleman's office, for that would deprive some young man of the place. Why do the young men want such employment? They do not command such high salaries. I can see no other reason then than that they do not want to toil on the farm or in the shops. Oh, for the day to dawn when the boasted strength and manhood of our country will be willing to accept the harder places of labor and leave easy places for the "weaker vessels."

[Pretty good!—ED.]

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Among the Flowers.

MRS. M. C. MARSHALL

Two years ago last spring I received a package of gladiolus seed. Well I thought, like my neighbor with the crazy quilt, "Life is too short for that." But I sowed the seeds in a shallow box and set it in the hotbed. It stood there until fall, then I carried it to the cellar. The next spring I planted those tiny bulblets out in a loose, rich border. They grew all right, and two of them bloomed and ripened seed. They were very lovely, the large Childsii variety. Last fall I took those young bulbs up and planted them about two inches deep in loose soil along in front of a grape vine trellis. They had no covering but the grape leaves which fell over them. In the spring they were up and growing before I had planted any of the old bulbs. They were a feast of beauty all summer. There were so many shades and colors among them that were different from any of my old bulbs. I took first premium at two fairs this fall on displays of gladiolus. I grow a good many flowers, but none give me more pleasure than my gladiolus and pansies.

Denton, Pa.

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Correspondence.

Mrs. B. Marick, Seneca, Kan., writes: Dear Mrs. Melville: You suggest that every subscriber to the P. F. write his or her opinion as to how the paper can be bettered. We think it is just about perfect as a farm paper, but one thing I did not like was that article about the massacre of the Jews in Russia. That did not belong in this paper. Politics ought to be left out, because every other paper is full of such things, and we want the P. F. to be a nice, clean paper without any of the sensational doings of the world. Moreover, this cry about the Jews is very partial, for look at the great injustices practiced in our own country, and all the trouble with the rich riding the poor and practicing usury on them to the extreme. Then look at the injustice practiced in the Philippine Islands to our Catholics. Their churches and schools were closed, their teachers banished from the country and the sacred vestments and other articles out of the churches were sold at auction sale, on the streets, by Jews. The President himself never got the correct information, because the reporter was a Jew Free Mason and the mails were all closely watched. What are they doing with the schools now? A Catholic people dare not have a Catholic teacher. Then look at the Turk, how he is massacring the Christians and the innocent babies. Then look at France, what Combes is doing with the religious rights. All this is looked upon in silence, because the injustices are against the Catholics; but the Jews must be fought for. Is that not partiality? You have many Catholic subscribers to your paper, and I think politics better be left out entirely so you can do justice to all. A little spark of fire like that article of yours about Russia has often caused a great war. It is dangerous to handle fire. I am the mother of a large family of small children. We are poor, but try to do our duty. Now, we are sending three children to the Catholic school, and paying school money and board and books all out of our own pocket, but our conscience will not permit us to send them to the public schools.

[Dear sister, we are glad to hear from you, but you would surely have smiled had you seen our amazement upon receiving this letter. We are learning by sad experience that it is indeed "playing with fire" to mention anything going on in our own country, or refer to any evil that ever has existed; but we thought we were safe while talking about the Jews in Russia. This was as surprising as the letter that came when we mentioned the cruelties that exist in Spain and South America. There is a protest if woman suffrage is discussed; the race problem is utterly tabooed, the brethren don't want fashion articles—what shall we talk about—somebody rise and answer. We do not wish our department to be dull, and certainly do not consider it edifying to talk "kitchen" all the time. We would suggest that the readers bear in mind that what displeases one pleases another, and each strive to exercise charity. In the course of the year there will surely be enough that is pleasing to every one to offset the parts not agreeing with individual views. Ofttimes the same mail will bring commendation from one and blame from another regarding the same story or article, as the case may be. For our part we are not partial to the publication that never says anything to rouse our ire. A paper or department that pleased everybody all the time would be a curiosity.—ED.]

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Youth's Parliament.

Miriam Waggoner, Marion, Ind., writes: Dear Mrs. Melville: I am a little girl of 12 years, and as I have read so many letters from the P. F. I thought I would write, too. My papa takes the P. F. and we like it very well. My papa owns a farm of 23½ acres of land and he will plant his garden on it next year. We do not live on the farm, but live on the farm adjoining it. I am very fond of animals, so I want to join the Band of Mercy. I have not got many pets. I have a dog and some little kittens, but the most important pets I have are two little twin sisters. They are seven months old. I have four sisters and one brother. I like to go to school very well. There are 35 scholars in our school. My teacher's name is Mr. Bish. I like my studies very well.

Helen Zimmerman, Lexington, Ky., writes: I am a little girl five years old next January. I live on a farm and like it very much. I live about a quarter of a mile from my dear old grandma's, and like to go there better than anywhere else. I have three aunts and three uncles, and they just give me a lovely time when I go there, and mamma lets me go right often. I have a sweet little sister, Orlene, in Heaven. She would soon be three years old if she had lived. We could just play together, and I missed her so much. I now have another baby sister named Mildred. She is six months old and laughs and plays with me but never cries. I have a pet cat named Sam. Every morning he jumps up on the window and "meows" until I open the window and let him in. I learn at home. I read through Holme's First Reader last winter and have started through it again. We have rural free delivery, and I am going to mail this letter myself. I always go after the mail. My papa takes the P. F. and we all like it very much and wish it success.

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Pigeon Book. — The Practical Pigeon Book is the title of a new book which pigeon fanciers will appreciate. Judges and breeders of birds have pronounced it the finest edition printed on general topics. It is finely illustrated and altogether is the best book of the kind we have seen. Price 50c., postpaid.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 600, Nov. 28.—*Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?*

Topic No. 601, Dec. 5.—*Have You Tried an Ice House with Cold Storage Room? If so, Tell How You Built it.*

Topic No. 602, Dec. 12.—*Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?*

Topic No. 603, Dec. 19.—*Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26.—*How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 605, Jan. 2.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic 598.—In Establishing a Timothy Meadow is a Nurse Crop Better Than Sowing Alone, and Have You Had Success in Sowing Timothy in the Spring?

E. F. Crist, Blasdell, N. Y.—In establishing a timothy meadow I have found it far preferable to sow alone, upon the principle that "no man can serve two masters," neither can the land grow two crops simultaneously and supply sufficient plant food for each. In order to keep the land occupied I sow oats as early as the land can be worked in the spring, and either cut green for hay, or at least cut as soon after July 10th as possible in order to get the land cleared and properly fitted for the timothy. As soon as the oats have been removed from the field plow and then work the land thoroughly with a disk harrow two or three times a week, and if we have a shower I work it with the disk harrow as soon as dry enough thereafter to save all the moisture; and also if the land is at all lumpy these lumps are more readily disposed of at that time. By working the land in this way from fifteen to twenty times I kill every weed as it sprouts and when the timothy is sown about September 1st, the ground is in such condition that the seed will at once spring into a healthy growth. I apply about 300 pounds of such fertilizer as the land seems to need, judging from my experience with it, and can always get a splendid stand of timothy. Have never tried the plan of seeding timothy in the spring.

Albert Murphy, Gordonsville, Va.—I have had as good success sowing timothy seed with oats in the spring as in any other way, if the amount of grain seed is diminished. The growing grain robs instead of nourishing the young grass. I have found no better plan than to prepare a good seed bed immediately after harvest, and after the first good rain sow broadcast 12 pounds per acre and harrow in with a light harrow or weeder. A smaller quantity of seed might do, but I prefer to make sure of a good stand, and not to depend on thickening it up later. This enables us to devote the land fully to the grain crop, and avoids the danger of smothering spots by lodging grain, or perishing in dry weather. The hay crop the following season will be free from trash, and will yield as much as if seeded in the spring with the oats or the fall before with the wheat.

C. E. Haw, R 2, E. Syracuse, N. Y.—In years past the method followed was to sow in fall with wheat or rye, but if soil was strong the rank growth of the grain would smother the grass, and on the other hand, when the grain was removed the tender grass was burned up by the sun. But now after the oats harvest we prepare the land as for wheat, getting the surface as fine as possible, and sow twelve quarts of timothy seed and one bushel of oats per acre. The oats making some growth before winter help to hold the snow, and protect the seedling. After harrowing lightly a light coat of manure is put on with the manure spreader. Some apply commercial fertilizers, sowing them with the oats and grass seed all at the same time. Where the hay is to be fed on the farm some clover is sown with the timothy. This method is a success and the grass makes a good growth during September and October. A field opposite my house was seeded in this way in fall of 1902, and the past summer made 13 large loads of No. 1 hay from 7 acres, and would have done better but for the drought in May. The grass, too, is more clear of weeds than usually comes after wheat.

E. W. Abbott, Ross Corners, Me.—To get best results timothy should be sown alone here. Have seen it do well sown in October, but it is better to sow the first of September. Brown top is usually sown with it. Spring sowing rarely fails unless it is smothered by the crop with it. Grain is sown either for threshing or hay, and a mixture of timothy, brown top and clover is sown. The first year is largely clover. I have seen good results from sowing in spring without a nurse crop.

L. H. Morris, Rush, N. Y.—We have very little difficulty here in starting a timothy meadow. We sow with wheat at any time from the middle of September to 10th of October or even the first of November. We sometimes sow in the spring with late sown rye, but cannot expect a good crop of hay the next season, though after that it is as good as that sown in the fall.

J. N. Howland, R 6, Windsor, Mo.—I find it better to sow timothy seed alone, having tried both ways. Had fairly good success from sowing with oats in the spring, and lightly brushing in, but my best stands have been had from sowing alone on well prepared land. It is almost useless to sow timothy seed here with the wheat, unless the following season is wet, as chinch bugs are liable to ruin it. One plan I have tried is to plow the land in the fall, and haul manure on it in the winter from a nearby town. I thus always get a good stand, the only drawback being the amount of weed seeds one gets in the manure. I prefer to sow good re-cleaned seed and the general rule here is to sow early in spring when the frost is thawing out, though several times I have had good success from fall sowing, and with favorable showers fall sowing may be best.

G. R. Biddle, no P. O.—We have had better success in establishing timothy meadows by fall sowing, with wheat as a nurse crop. Sowing alone and sowing in spring with other crops give poor results generally. Some think that fall seeding injures the wheat crop, but as we are working for good meadows we prefer the fall sowing.

E. E. Lawrence, Spafford, N. Y.—I have found a nurse crop of value in establishing a timothy meadow. Barley or wheat make a good nurse crop. Oats are not so good, as they grow too thick. We have been successful in spring sowing. On good soil it will usually make a good stand.

E. C. Pittman, Poindexter, Ark.—I have rarely found that timothy does well sown with wheat in the fall or with oats in the spring. The only excuse for the practice is that it saves one preparation of the land, but it often follows that the wheat is injured and the timothy is a year late or fails. After selecting good soil for timothy, I break the land well, regulating the depth of plowing by the depth of the soil. On rich soil, the deeper the better. I then harrow and pulverize the surface well. The time for sowing is after the dry, hot weather is over and the nights are cool and the dews heavy. Sow after the ground has been well moistened by rain or the dews may germinate the seeds and the hot sun may destroy them. Here we sow about the first of October.

J. M. Doughty, Farmington, Mo.—Here wheat is often used successfully as a nurse crop, but we have had better success from sowing timothy seed alone in August or September. Formerly we summer fallowed the land for timothy, but in the future we shall grow cow peas as a preparatory crop, as they enrich the soil and the preparation for the peas in early summer and for timothy in early fall, will free the soil of weeds. It is not difficult here to get a stand of timothy in the spring, but the first crop is seldom heavy, while with fall sowing the first crop is generally the best the meadow produces.

G. L. Poole, Welshfield, O.—We have never sown timothy alone, but have had good success in sowing on winter wheat in the spring. Have had the best success from sowing in the fall at the same time with the wheat, using a grass seed attachment. Here it would be a waste of the use of the land to sow alone, for splendid meadows can be had by sowing in fall or spring. Have sown with oats in April, but not with good success.

L. C. Coddington, Ossining, N. Y.—I find it much better to sow in the fall, if I can get it in by September 1st, so as to get a good growth, for then the seed gets the benefit of the fertilizer used, and I get a good crop the next spring, which I cannot do with a nurse crop. I prepare the land as early as possible, and harrow repeatedly till time to sow, thus killing the weeds and making a good seed bed. Have done well sowing with oats in spring and cutting the oats green for hay. If the oats are allowed to ripen, they rob the grass of moisture, as the ripening of oats draws a great deal of moisture from soil.

H. McClurg, Moscow, N. Y.—A nurse crop is better than sowing timothy alone. Most farmers here sow in the fall after wheat is sown, while the ground is damp and mellow, about six quarts per acre, and in the spring sow about the same quantity of clover seed. After wheat is cut the clover makes a good growth before winter, and is generally pastured in the fall, and next year mown for hay. The following year timothy has taken possession. The first seeding I ever did in spring was with oats. The oats were very heavy and the timothy did not put in an appearance that year, and the next spring the land was covered with Canada thistles so that nothing else could grow. Some advised me to plow it up. But I cut the thistles and after that had the finest catch of timothy in the county. As I wanted it for permanent pasture I was glad that I did not plow it up. It takes timothy two years to make a sod. I seeded some late last fall. It looked well when the snow went off, but the dry spring killed much of it. After the rains I sowed more seed and now I have a fine catch. I seeded an orchard in July; got a fine catch.

E. J. Adkisson, R 13, W. Nashville, Tenn.—We have abandoned sowing timothy with a nurse crop, clover being the only hay seed we care to sow in that way. The only spring sowing we do is patching up bare spots. Fall sowing is much better here. Winter oats are sown in September or October. After pasturing, the oats are cut in the dough state for hay. The ground is broken and a seed bed made for millet, cow peas or cow peas and sorghum mixed. After this hay has been removed, the land is disked, lapping half, cross disked, again lapping half, stirring the soil about two inches. Then the smoothing harrow followed by the seeder, putting on about one-third of a bushel per acre, and then the land is rolled. Timothy, red top and orchard grass do not freeze out so badly when sown after the disk as on land freshly broken and worked down, and the seeding can be done very much faster.

J. R. Johnston, New Wilmington, Pa.—I have not succeeded well in getting clover and timothy with oats, and as I sow little wheat I adopted the plan of sowing timothy alone, and have succeeded well. Sometimes I plow an oats stubble and keep disked and harrowed till September, and then sow twelve quarts of timothy seed, four of blue grass and two of red top. Then broadcast 400 pounds of complete fertilizer and go over the ground once with the weeder or a good steel horse rake if you have no weeder. If the land is thin apply 100 pounds per acre of nitrate of soda in April, and you will be reasonably sure of two and a half tons of dry hay per acre the first mowing. Do not mow nor pasture the aftermath. Repeat the nitrate the next spring, and the second season's mowing will be better than the first. I also succeeded in establishing a meadow by plowing a corn stalk field as for oats. Kept it disked and harrowed till the latter part of July and then sowed and treated as before. I cannot say whether it is better to sow in July or September. The main points are to have a good seed bed and then give grass plenty of food.

Thomas Patton, Mosgrove, Pa.—We have had much better success when timothy is sown with some other crop. It is slow to stool out, and when sown alone weeds and other quick growing plants retard its growth. Here we sow timothy with wheat from first to middle of September, always covering the seed lightly with the weeder or hay rake, which makes the stand more certain, especially in dry weather. By the time the wheat is cut the plants have made a complete cover. Do not sow too thick with timothy, but the next March, when the soil is honeycombed, sow 4 to 6 quarts of clover seed per acre, and you will have a much better grade of hay. Spring sowing here has generally failed and is not practiced.

Mrs. H. W. Wallace, Newport, Ky.—We select a piece of land that has been in corn or tobacco, plow well in October, and pulverize. Then sow thinly with rye. On this the timothy seed is sown in February when the ground is honeycombed with frost. In June a roller is run over the rye to press it down and form a mulch over the tender grass and protect them from the sun. Timothy sown in this way always makes a good meadow.

W. H. Wheeler, Greenleaf, Ore.—I have had better success with timothy sown in the fall without a nurse crop than in any other way. I sowed a piece with oats last spring. It made a fine start but the removal of the oats proved fatal to it, the August sun drying it out entirely. I am now about to re-seed it by scratching the ground with the harrow, which will not tear out much of the white clover. I always sow a little white clover with timothy. It thickens the stand near the ground and greatly increases the protein content of the hay. Its leaves and stems remain green till the timothy is ready to cut, when red clover would be dry. I have had success in sowing timothy in spring with thinly sown barley as a nurse crop. As the barley was not tall nor the shade dense the timothy did not suffer when the barley was removed. I have never sown timothy in spring without a nurse crop. It seems to do as well sown on freshly prepared land in the fall, and gives me a summer crop off the land.

A. G. Fansler, Hendricks, W. Va.—We find that sowing timothy in the fall and alone, on well prepared seed bed, is the safest and surest way to get a sod. We select rather low and moist land and prepare it well, using plenty of seed and a broadcast hand sower while the land is freshly worked. Our experience with nurse crops has varied. With favorable seasons have had excellent results, and at other times partial or entire failures. The so-called nurse crop usually takes all the food, leaving the young grass in a weak state and easily affected by unfavorable weather conditions. At times it may be advisable to use a nurse crop, and in this case fall is the time to sow. Spring sowing we have found unsatisfactory, especially when sown with spring grain. Were we sowing timothy solely for a good stand of grass we would sow alone and in the fall.

L. F. Kirkpatrick, Mooresburg, Tenn.—I prefer to use a nurse crop rather than to sow alone, and seldom fail to get a good stand when sown with wheat or rye in the fall, and if I fail in fall I can still sow in the spring. A grain crop can be raised without serious hindrance to the timothy. In this section there has been trouble in getting a good stand from spring sowing. When sown in rich land in the fall the timothy is often headed out when the wheat is cut. This may be partly prevented by later sowing after the wheat is sown. Sow from 1st to middle of October and harrow in with a weeder even if the wheat is up, as it helps the wheat and makes a seed bed for the grass. Sow clover at usual time in spring. Rye is a better nurse crop than wheat, as it shades less. The seeding of wheat should be one-fourth smaller when used as a nurse crop.

SUMMARY.

As the Editor now lives where timothy does not thrive, he can only refer to experience of former years, when he grew timothy on a large scale. We agree with the majority of our contributors that the fall is the best time to sow timothy or other grass seed. If we were sowing solely for a meadow, and on the best timothy soil, that is, low, moist land, we would sow the seed alone. But on uplands, where one is practicing a rotation of crops, it is generally perfectly feasible to sow with a grain crop. When we were growing timothy largely our interests were in stock and stock feed, and we grew no fall grain, because we did not care to have grain to market, but did want all the forage we could get. Hence nearly all of our seeding, except as stated, on bottom lands, was done in the spring and with the oats crop. We never failed to get a good stand of clover or grass when sown with oats in the spring, and we have never been able to understand the general objection to seeding with oats. The principal reason for failure with most farmers is not the oats, but the lack of grass seed used. It always pays to be lavish with clover and grass seed, and more failures come from lack of seed than from the crop they are sown with. In fact, so far as clover is concerned, we had rather sow it on freshly prepared land than on a grain field that has lain all winter, even if we were sowing in spring, for here fall is the time to sow clover as well as timothy, and we have seen clover sown with fall oats nearly as tall as the oats in the spring.

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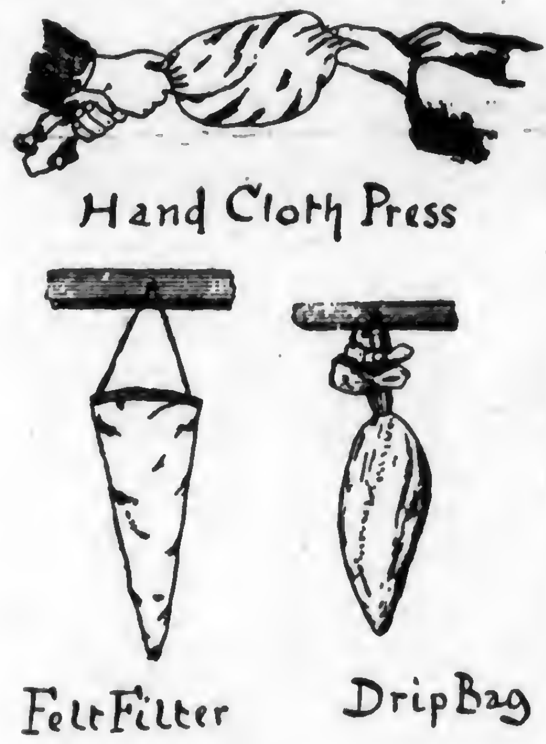
BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Waist Hanger.—Many housekeepers lack space in their closets to hang their waists and coats so as to keep them fresh. The following plan will be a help: Take a pole of the desired length, put a large screw-eye at each end and a number of smaller ones at equal distance from each other along the pole. Screw a hook in the ceiling. Fasten a strong cord to the pole in such a manner that it can be thrown over the hook and the pole lowered or raised. Place the articles to be hung on coat hangers and hook on the pole. They will keep fresh and smooth.

Sweetwater, Tenn. G. M. McKNIGHT.

Grape Juice a Short Cut to Health.—We think much of grape juice as a drink, both in sickness and health, even in typhoid fever cases. It is used, as the Government bulletin says, as a preventive, restorative and cure, by the young, by persons in the prime of life, and by those in old age. It is food and drink, refreshment and nourishment, all in one. Grape juice can be safely sterilized at from 165 to 176 degrees Fahrenheit. At this temperature the flavor is hardly changed. G. C. Husman, in the bulletin, gives the following directions: Use only clean, sound, well ripened but not over ripe grapes. If an ordinary cider mill is at hand, it may be used for crushing and pressing, or the grapes may be crushed and pressed with the hands. If a light colored juice is desired, put the crushed grapes in a cleanly washed cloth sack and tie up. Then either hang up securely and twist it or let two persons take hold, one on each end of the sack, as shown in illustration, and twist until the greater part of the juice is expressed. Then gradually heat the juice in a double boiler or a large stone jar in a pan of hot water, so that the juice does not come in direct contact with the fire, at a temperature of 180 to 200 degrees Fahrenheit; never above 200 degrees Fahrenheit. It is best to use a thermometer, but if there be none at hand heat the juice until it steams, but do not allow it to boil. Put it in a glass or enamelled vessel to settle for twenty-four hours; carefully drain the juice from the sediment, and run it through several thicknesses of clean flannel, or a conic filter made from woolen cloth or felt may be used. This filter is fixed to a hoop of iron, which can be suspended wherever necessary. After this fill into clean bottles. Do not fill entirely, but leave room for the liquid to expand when again heated. Fit a thin board over the bottom of an ordinary wash boiler, set the filled bottles (ordinary glass fruit jars are just as good) in it, fill in with water around the bottles to within about an inch of the tops, and gradually heat until it is about to simmer. Then take the bottles out and cork or seal immediately. It is a good idea to take the further precaution of sealing the corks over with sealing wax or paraffine to prevent mould germs from entering through the corks. Should it be desired to make a red juice, heat the crushed grapes to not above 200 degrees Fahrenheit, strain through a clean cloth or drip bag (no pressure should be used), set away to cool and settle, and proceed the same as with light colored juice. Many people do not even go to the trouble of letting the juice settle after straining it, but reheat and seal it up immediately, simply setting the vessels away in a cool place in an upright position where they will be undisturbed. The juice is thus allowed to settle, and when wanted for use the clear juice is simply taken off the sediment. Any person familiar with the process of canning fruit can also preserve grape juice, for the principles involved are identical.—SELECTED.



Ornamental Trifles from Seeds, etc.—Acorns may be gilded or silvered with good effect if a twig with several fine specimens and two or three leaves is selected. The nuts should be removed from the cups and replaced with a drop of glue, or they are apt to drop out when dry, and spoil the cluster. The leaves should be caught to the stem with a very fine thread of wire, as they, too, are given to parting company with the twig at inopportune times. A broad, medium-sized brush and some rather thickly mixed gold paint will then complete a most effective ornament for Christmas tree use, or to lighten up a lamp shade of dark, rich tones, or a mass of sombre drapery. Another way of making use of the acorn cup is to remove the nut and substitute for it a velvet emery cushion of just its size and shape, and of any color desired. A drop of glue, supplemented by a stitch or two with doubled buttonhole twist of the color of the cup, taken directly from the base of the little cushion through the centre of the cup, with the ends tied firmly in a tiny knot, will keep the emery in place till doomsday. Two or three of these tied together with narrow ribbon make a pretty and useful item in work-basket furnishing. The seed balls of the sycamore and sweet gum are very ornamental when gilded or silvered and tied with bright ribbons in festoon-like clusters. Pine cones, especially the small brown seed repositories of the spruce, easily lend themselves to such an arrangement. With their ray-like tops cut off they are good for rustic box making, the tops being set close together and glued firmly all over the outside surface of the box. SELECTED BY RURAL READER.

Growing Shade Trees.—If the first or second summer after setting shade trees are very dry, try this plan: Sink into the ground about one foot from the root of the tree any old vessel that holds about two gallons. Make a few small holes in the bottom so the water will slowly ooze out; fill with water each day. Wrap the trunk of the tree closely with something old, like guano sacks, to protect them from the hot sun.

Lincolnton, N. C. MRS. LEE HOOVER.

Buying Shoes for Women.—You will find less difficulty with ready-made shoes if you will stand up when trying them on, instead of sitting down. A woman's foot is considerably smaller when she sits in a chair than when she walks about. Exercise brings a large quantity of blood into the feet, and they swell considerably. The muscles also require certain space. In buying shoes this should be borne in mind.

Madison, N. C. W. A. McCOLLUM.

Raking Lawns.—We usually do our lawn raking with a regular wire lawn rake. Any common rake, however, may be used. Try the following, when raking lawn with garden rake: Take pieces of corn cobs and push over the two end teeth, letting them project below a little and note how much easier the work is. J. W. PALMER.

Port Jervis, N. Y.

Keep the Scythe Sharp.—The short cut to cutting anything with scythe is by the grindstone and whetstone route. When you have no really good whetstone at hand, try an old file. It is often more satisfactory to use than many kinds of whetstones on the market. J. S. ANDERSON.

R 1, Oneida, Kan.

Short Cut for Household Repairs.—Buy a bottle of liquid glue for 15 cents, and you will find, as I did, that a dozen little articles about the house will get mended to one the old way of melting up stick glue every time one wanted to use a little. I have lately mended a glass vinegar dish, baby's little chair and his furry dog (toy), loose cover on a magazine, loose leaf and cover on book, handle on small pitcher, etc.

R 2, Ithaca, N. Y. MARIAN O. BROWN.

To Sharpen Old Files.—Take the files which you wish to sharpen and rub a piece of charcoal over them until the crevices are all filled up level. Then place them in some old vessel and cover them all up with good, strong apple vinegar and let them remain in the vinegar for three days and nights. Then take them out and wash and dry them and they are ready for use and will cut almost as good as new. P. F. CORUM.

R 6, Rutledge, Tenn.

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Rye and Peas.—Will give my views in regard to rye and peas as a fertilizer. We sow rye in the fall and pasture until it is well eaten down in the spring; we then turn it under and seed to cow peas. Now if these are mowed for hay and the stubble turned under it will yield a double crop of cotton or corn. I hope this will help some farmers along in improving their land. I will also tell of our way of raising Irish potatoes. We break the land deep and lay off without making any bed. Drop the potatoes and throw two furrows on them with a pony steel turning plow. Plow them medium deep and the last time cover the entire vine up with dirt and they will make a double yield. If you do not believe in this, just try a few hills at the first opportunity and you will be surprised. H. Price.
Hunt, Ark.

Chicken Cholera Considered.—Many poultry raisers are troubled with cholera among their chickens. This, I think, may be prevented if the right kind of houses are used, keeping them pure and clean and washing the roosts with soapsuds after you wash to kill the lice. But if the house cannot be kept in this condition and your chickens get the cholera, here is a good remedy, which has proved safe and sure. Find some place where May apples grow and dig some of the roots. Pound the roots fine and put on as much water as you would use in making a good bran mash. Let set a while, then mix the feed and place it where nothing can get to it but chickens. If the sick ones refuse to eat, take some in your hand, open their mouths and poke it down. If this is used about one week your chickens should be cured. The May apple roots beaten and put in the water troughs and then filled with water for them to drink, is good, but if they are too sick to drink, make the soft feed of bran and meal, mix it with the May apple juice and force it down the sick fowls if necessary. It will cure, for I have had experience with it several times and always with success. C. C. Hubbard.
Corydon, Ind.

Caramel Cake Filling. — Half cup of sweet cream, two cups medium brown sugar, butter the size of an egg. Boil together until thick, which will be about ten minutes. Set off the stove and beat until it begins to thicken, then spread quickly between layers and on top of cake. This is easily made and very good; can scarcely be told from maple caramel. A good rich lemon butter filling is made by beating together three eggs, three tablespoonfuls butter, one cup sugar, juice and yellow part of rind of one and a half lemons. Stir well and cook in double boiler until thick. If it is not quite thick enough add one tablespoonful corn starch wet in a little water, and boil again. Good for cake or tart filling. Sybil McFarland.
R 4, Utica O.

Mouth Wash.—The following, which was given me by an old physician of thirty years experience, has proved so valuable in my family of little children, and is so simple, harmless and easily prepared that I will "pass it on." Take two tablespoonfuls of hot water and put into it as much powdered borax as it will dissolve. Let it settle, pour off a clear liquid, measure and put in a vial with an equal quantity of glycerine. For sore mouth and gums apply with a soft cloth. For sore throat dilute and use as a gargle, one teaspoonful to half a cup of water. This will give quick relief and a few applications will cure. Mrs. Venable.
Woodberry, Ark.

Selling Straw.—Last winter I blundered by selling a fine lot of wheat straw from the farm, which realized me but a small revenue. Had I fed the same straw to cattle I could have realized much more cash for the straw, in addition to the benefit accruing from having my feed fed on the farm, thereby building up and improving my land. To keep more stock on my farm and feed all possible of the roughness back onto the land, shall be my method in the future. E. W. Helper.
Goshen, Va.

To Keep Weevils Out of Seed Beans.—Moisten a rag with turpentine and put it in among the beans, about the middle of a common tin can full. Put the lid on tightly for a few days, then loosen a little so the air can get in. I planted beans a few weeks ago that were so treated and felt sticky, and they grew as well as sound, untreated beans possibly could. Frederick Spiker.
Ten Mile, W. Va.

Substitute for Nursery Chair. — Not being able to get a nursery chair for baby, I found the following a good one. Take three pieces of extra heavy cardboard ten by twelve inches in size and tack them together with a good strong thread. Cut a hole in centre five by six inches; pad nicely with a piece of old quilt or something and you have it done. Baby will learn quite young to wait until his "chair" is fixed.
Springdale, Ark. Mrs. Allie Cottrell

Tobacco as a Money Crop.—First, to insure a successful tobacco crop one must use seed of a good variety and a tobacco that is acclimated. I have splendid success by burning off the brush in some rich spot and mixing the ashes thoroughly with the soil after trash is all thrown out. The seed is then sown on the surface and raked in very shallow. When the plants are from two to three inches high they are transplanted. I prefer rich, loamy land. I began cultivation at an early date and cultivated often; also keep a sharp lookout for worms, which will ruin the crop in a very short time if given a chance. The plants should be suckered very often. Tobacco growers differ in opinion in regard to stage of cutting, curing, etc.
Middle Fork, Tenn. W. C. Crook.

Growing Corn. To reach the best results it is necessary to plow your ground as early as you can, two weeks before planting if possible, letting it lie till about planting time. We then roll with a land roller, harrow three or four times and roll again. Then we furrow out both ways and plant, covering deep and rolling again as soon as planted. We do nothing more until the plants begin to come through the ground, when we harrow with a smoothing harrow which makes the ground smooth for working and prevents it from washing as easily as it otherwise would. By working and hoeing the corn well we generally have it do well for us.
Berwindale, Pa. Irvin G. Miles.

How we Make Our Corn Bread.—Very good corn bread may be quickly and easily prepared in the following manner: Two cups of corn meal, one teaspoon salt, one tablespoon of shortening (either lard or cottolene will do). Pour boiling water over it, stirring it thoroughly until about the consistency of mush. An egg or two well beaten may be added but it is very nice without. Bake in a covered iron skillet, well greased, on top of the stove, about half an hour, turning when half baked. Mrs. A. J. McDonald.
Ft. Pierce, Fla.

Helpfulness vs. Faultfinding.—As a boy in school in Germany, the teacher often made fun before the whole class of my poor handwriting, often saying that I should never learn to write. I always hated that man. Soon after this I got another teacher who told me that if I would only try and make each succeeding letter a little better than the last, I should soon be able to write, and write well, even if I only wrote a dozen words at a lesson. This gave me courage; I tried and succeeded. This has always been in my mind in later life, for I find that this painstaking way of working will apply well in farming also (note Mr. Terry's success!). There is another lesson also in my teacher's way of helping me. Faultfinding and ridicule will do but little with anyone, whereas by pointing out a way by helpful suggestion, much good may be done. The P. F. being conducted along these lines, often reminds me of my teacher, to whom I have always felt grateful. Theo. Cranz.
Fisher, Ore.

Clean Coops.—New, clean poultry coops are a great help in selling live poultry. Shippers often send their stock to market in old, dirty, broken coops which should have been put on the wood pile. Such coops affect the sale of poultry more than many shippers realize, and should not be used where it is possible to get good ones. Then the coops must be properly filled; never crowd poultry, especially in low coops. Dead birds are often seen in these coops, trampled to death or smothered. What, then, must be the condition of the birds that remain alive in the same coops? The loss often takes all the profit of the shipment. Make the coops of light, strong lumber with close bottoms. When they become dingy, cleanse and paint them; when rickety, burn them. Always keep them clean and your poultry will command a conspicuous place on the commission merchant's stand, and it will sell first and best. Ada H. Parker.
Zelda, O.

Picking Fowls.—To save time in picking fowls, as soon as the fowl is killed dip it into cold water; then sprinkle rosin over it: the dampness will cause it to stick. Now scald the fowl; the scalding water will melt the rosin and hold the feathers together, so they can be pulled off by handfuls, most of the pin feathers coming with them. It does not take more than one-fourth of the time to pick fowls in this way, and they look better than when picked in the ordinary way.
Bristol, Conn. Howard R. Brockett.

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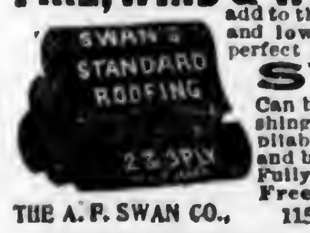

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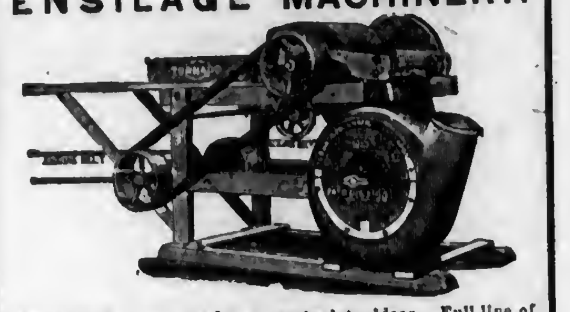

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in southwest corner of State of Missouri, 6 miles from Indian Territory. Weather condition all that can be desired. First slight frost September 17th; first killing frost Oct. 18th; some late planted sorghum caught by frost, as also late sown cow peas. Acreage of wheat sown below the average; corn not 50 per cent. of a crop; late potatoes very good. Prices: Potatoes, $1; sweet potatoes light crop, $1 per bu. Spring seeding of clover the finest for years; apples 25 per cent. of a crop, but all faulty; very little spraying done; price, 15c. per bu.; none shipable; many orchards are being planted. Cattle lower in price; hogs scarce; butter, 15c. per lb.; eggs, 15c. per doz. Health good generally. GODFREY WINKLER.
Southwest City, Mo., Oct. 31, 1903.

Located 15 miles southeast of Bedford, the county seat of Bedford Co. Have had plenty of rain; crops good, except corn, three-fourths; buckwheat one half. Threshing is coming to a wind up; yield fair. The land is good red slate. Prices: Winter apples, 40c.; corn, 60c.; wheat, 75c.; rye, 60c.; oats, 40c.; buckwheat, 58 to 60c.; Irish potatoes, 50c.; sweet potatoes, $1 per bu.; hogs, 7c.; beef cattle, 4c. lb.; pigs 4 weeks old, $1.50; horses, $75 to $125; cows, $25 to $30 each; eggs, 20c. doz.; butter, 20c.; lard, 11c.; chickens, 10c. lb.; timothy hay, $15 per ton. We have telephones. The timber, which consists of oak and pine, is being nearly all cut out. About all the farmers here are planting apple orchards; peaches were scarce. The town has no saloon; markets good for all kinds of produce. School teachers wages, $25 to $30 per month. Success to the P. F. and all its readers. ELMER E. PITTMAN.
Clearville, Pa., Nov. 1, 1903.

Situated about the centre of the U. S., 170 miles west of Missouri River and 200 miles from western State line, in Webster, the middle county in south tier. Had very wet season until September; scarcely any rain since, hardly enough to start fall seeding. The wheat made 15 to 30 bu.; oats good; corn is dry enough to crib, and will make 25 to 50 bushels per acre. There being very little rain, the buffalo grass cured nicely and stock will eat it all winter. Fourth crop of alfalfa just cut; very light, but three heavy crops, as good per ton as bran, is paying. No seed raised, as it grows too rank. Nearly all the corn land is sowed to wheat. A good many cattle being fed in lots, as it only takes 60 per cent. of the corn to fatten steers where all the alfalfa is fed that is wanted. Cattle dull at 2 to 3½c. per lb.; hogs fair crop, no disease; price, 4½ to 5c. per lb. Can ship to any of the three Missouri River packing points. Help very scarce. School teachers, $30 to $50 per month. Roads fine naturally, but not kept up well. There are 10 hand separators in the neighborhood. As county is very rolling much is left for pasture. Price of butter fat for last ten months has varied from 18 to 30c. per lb. Nearly all the cattle are beef breeds, and hence good milkers are scarce and cows only milk a few months.
J. M. LANCASTER.
Riverton, Neb., Oct. 30, 1903.

Located 8 miles west of Shelby, the county seat of Cleveland Co. Weather has been very dry for the past few weeks. Corn gathering is beginning, and a half crop is reported. The wheat crop for last year was very sorry, but a large acreage will be sown this year. The principal crops are corn, cotton, wheat, oats, potatoes and cane. Cotton sells for 10c. per lb.; corn, 70c.; wheat, $1; oats, 60c.; potatoes, 60c. per bu.; chickens, 25c. each; eggs, 15c. per doz.; butter, 12½c. per lb.; pigs are scarce and sell very high; horses sell for from $75 to $150 each; mules about the same; land, $25 to $50 per acre. Our roads are worked by taxation. Success to the P. F. R. G. GREEN.
R 3, Shelby, N. C., Oct. 31, 1903.

Located in the central part of the great San Joaquin Valley, California. Land level, very fertile, producing wheat, barley, oats, corn, alfalfa, grapes and all kinds of fruit, particularly peaches and apricots, to perfection. We raise on an average 4 to 5 tons of alfalfa hay to the acre, and alfalfa is unsurpassed as food for hogs and dairy cows. In this valley the largest rasin grape district in the world is located. Raisins have this year and last brought the growers an income of about $100 per acre a year. Phylloxera and other grape vine pests have not done any harm yet in this valley. Climate warm in summer with entirely clear weather for over 6 months; the coldest known winter temperature 12 degrees below freezing point. Irrigation is necessary, as the annual rainfall is only 8 or 9 inches. Cyclones, thunder-storms, etc., unknown. Price of wild land $35 and upwards per acre; cultivated land sells at $60 and upward; vineyards and orchards in bearing cost from $200 to $350 per acre; horse are worth $75 to $150; cows, $50 each; hogs, 5 to 5½c. per lb., live weight; eggs at present, 30c. per doz.; potatoes, $1.25 per 100 lbs.; butter fat, 29c. per lb.; hay, $7 per ton; mill stuffs are high, shorts, 1¼c.; bran, 1¼c. per lb. ERNEST SKARSTEDT.
Laton, Cal., Oct. 28, 1903.

Located in Pulaski Co., 12 miles north of the county seat, Somerset. A good crop of corn grown this year. Wheat damaged by hot, dry weather before cut; apples scarce, except on the Gentian trees, which were loaded. Farmers are improving their farms in this part. Wheat nearly all sown. No peaches; sorghum extra nice this year; Irish potatoes good, selling at 75c.; sweet potatoes, 50c. per bu.; meat, 12½c.; lard, 12½c.; hens, 6½c.; friers, 8c.; butter, 15 to 20c.; dried apples, 3 to 4c. per lb.; corn, 63c.; meal, 85c. per bu.; chestnuts plentiful, selling at $2 per bu. Many farmers reading P. F.
JAMES A. HUBBLE.
Pulaski, Ky., Nov. 2, 1903.

CASH FOR YOUR FARM
(OR OTHER REAL ESTATE)
NO MATTER WHERE IT IS

If I did not have the ability and facilities to sell your property, I certainly could not afford to pay for this advertisement. This "ad" (like all of my other "ads") is practically sure to place on my list a number of new properties, and I am just as sure to sell these properties, and make enough money in commissions to pay for the cost of this "ad" and make a good profit besides. That is why I have the largest real estate business in the world to-day.

Why not put your property among the number that will be listed and sold as a result of this "ad?"

I will not only be able to sell it—sometime—but will be able to sell it quickly. I am a specialist in quick sales. I have the most complete and up-to-date equipment in the world.

I do not handle any of the side lines usually carried by the ordinary real estate agent. I do not make any money through renting, conveyancing, mortgages, insurance, etc. *I must sell* real estate—and lots of it—or go out of business. I can assure you I am not going out of business. On the contrary, I have already sold twice as many properties this year as I did during 1902 and expect to sell *several times* as many next year.

Eight years' experience, offices in principal cities from Boston to San Francisco, hundreds of representatives and an expenditure of over $100,000 a year in advertising, gives me better facilities for quickly selling your property than any other broker anywhere.

It doesn't matter what kind of a property you have; it doesn't matter whether it is worth $500 or $500,000, or in what state or territory it is located. If you will send me a description including your lowest cash price, I will tell you how and why I can quickly convert it into cash, and will give you my complete plan (free) and terms for handling it. The information I will give you will be of great value to you, even if you should decide not to sell. Fill out the upper coupon on this page and mail it to me to-day.

If you want to buy any kind of a property, anywhere, fill out the lower coupon on this page and mail it to me to-day. I will guarantee to promptly fill your requirements and save you some money.

W. M. Ostrander, 346 North American Bldg. PHILADELPHIA.

If You Want to SELL, Fill Out, Cut Out, and Mail this Coupon to me to-day

W. M. OSTRANDER *1903*
346 North American Bldg., Philadelphia.
Please send without cost to me, a plan for finding a cash buyer for my
property, which consists of ....
.... *in the town or city of* ....
County of .... *and State of* ....
and which I desire to sell for $ ....
The plan is to be based upon the following brief description of the
property ....
....
....
Name ....
Address ....

If You Want to BUY, Fill Out, Cut Out, and Mail this Coupon to me to-day

W. M. OSTRANDER *1903*
346 North American Bldg., Philadelphia.
With a view of buying, I desire information about properties which correspond approximately with the following specifications.
Kind of Property .... *Size* ....
State .... *City or County or part of State preferred* ....
The price must be between $ .... *and $* .... *I will pay*
.... *down, and the balance* ....
....
Name ....
Address ....

CALIFORNIA.
Find enclosed check for $407.00 in full payment of balance of your commission on the sale of my timber lands in this place. I must say, at this long distance, it is certainly wonderful how you are able to find the parties who wish to purchase. I never more willingly paid for services than I do in this case. I wish you all the success which you so richly deserve.
C. P. HODGES, Monroe, Cal.

NEW JERSEY.
We have received the check in full payment for our New Jersey property. It is a remarkable fact that this property has been on the market and in the hands of various agents for more than twenty years, and your success in making a cash sale in a short time is proof to us that you are the only agent who ever made a real effort to dispose of it. Your methods are up-to-date.
MR. & MRS. O. C. WHITTEMORE, Athol, Mass.

FLORIDA.
Yours, 26th inst., containing money-order for payment on Florida property is received. I thank you for the efforts you have made to effect a sale.
WM. S. TAYLOR, 1120 G St., N. E., Washington, D. C.

NEW YORK.
I am in receipt of your letter acknowledging draft covering commission on the sale of my office building, at Amsterdam, N. Y., for $10,000 cash. I wish to thank you for the interest you have taken in the matter, and express my satisfaction at having entrusted you with the business.
W. G. BARNES, Seattle, Wash.

SOUTH DAKOTA.
I am in receipt to-day of your check in full settlement for my Brown Co., S. D., farm which you have sold for me. Your ability to sell at long range has been proven to my satisfaction. Thanking you for the attention given my case, I remain,
DAVID ARMSTRONG, Hayesville, Ohio.

COLORADO.
I received your check to-day covering the full amount realized on my building lots at Boulder, Colo. I am pleased with the way you have handled this matter, and can endorse your method of completing quick sales. I again thank you.
H. McC. HART, Box 227, Halifax, Nova Scotia.

IOWA.
I approve of your up-to-date and thorough methods displayed in conducting your business. The several farms which you have secured for my clients have all proven satisfactory, and I shall certainly call upon you for more properties from time to time as I find the buyers.
L. T. GRAVES, Emmetsburg, Iowa.

VIRGINIA.
I hereby acknowledge receipt of your check payment in full for the Bedford Co., Va., farm you sold for me. My dealings with you have been entirely satisfactory. I wish to thank you for the attention you have accorded me.
MRS. E. B. STEVENS, Baltimore, Md.

MINNESOTA.
I have to thank you, as it was through your "Monthly List" that I found my bargain, and I will truly recommend you as the safest and best real estate dealer and agent in the United States.
FRANK G. WILSON, Cyrus, Minn.

PENNSYLVANIA.
I have received in cash, my price, less your commission, in full payment for my Hollidaysburg property. Your services have been highly satisfactory in every way, and your promptness in finding a cash buyer is substantial evidence of the superiority of your methods. I earnestly recommend your services to any one having real estate for sale.
J. GRAS DITTING, Hollidaysburg, Pa.

OHIO.
I received the deed and papers to-day for the farm which you secured for me in exchange for my building lots. I wish to thank you for the attention you have given this matter, and from my experience can recommend you to any one wishing to find property or to any one wishing to dispose of property.
J. O. MOSS, Cambridge, Ohio.

TEXAS.
I have finally completed a satisfactory trade with your client, in which he accepted in part pay for his property my Manvel, Texas, real estate. I appreciate the efforts you have made in this direction, and am satisfied with what has been accomplished. Should I have any further dealings in real estate I will certainly accord you the first opportunity of handling the business.
D. W. LENTZ, Manvel, Texas.

ILLINOIS.
On September 15th I mailed you the balance of commission due you for selling my Illinois farm. I thank you for the promptness and the businesslike manner in which you handled this transaction, and wish to express my gratification that so little time elapsed between the time I placed the property in your hands and the time the buyer arrived at the farm.
P. G. RAGAINS, Norman, Okla.

KANSAS.
Your letter received, enclosing check for one of my Kansas farms, sale of which you have just completed. I am pleased that the many difficulties which arose in connection with this matter were successfully overcome.
CHARLOTTE D. KNOX, Peekskill, N. Y.

MICHIGAN.
I am in receipt to-day of your check and papers in final settlement on the sale of my Michigan farm. I am well pleased with the manner in which this transaction was handled, and can say from personal experience that your methods are straightforward and show results.
GEORGE MARTIN, Platte, Mich.

NEW MEXICO.
I have received deed and other papers for the transfer of my property in Mesilla Park, New Mexico. I desire to compliment you upon the good and prompt service, and I gladly recommend your services to any one who wants to buy or sell.
F. W. BRADY, Scranton, Pa.

ALABAMA.
Your letter and your personal check came duly to hand. Thanks. I really think you are a gentleman above the average, and the best and fairest real estate man I ever dealt with. No honest person can find fault with your rules governing the advertisements and sale of lots and farms.
W. T. TRAMMELL, Scottsboro, Ala.

NEBRASKA.
I beg to acknowledge check in settlement for the Hayes Co., Nebraska, quarter section, the sale of which you have just completed. This, I believe, is the last one of the sales which you have made on my western holdings. I appreciate your success in disposing of the several properties placed in your hands, and feel satisfied with the attention you have given me.
H. J. WYNKOOP, Bath, N. Y.

SOUTH CAROLINA.
The transfer of my property, made by you, was completed to my entire satisfaction. I thank you for the prompt and careful service.
R. P. RAWSON, Williamston, S. C.

WISCONSIN.
I have the pleasure of acknowledging your check for $1268.00, in settlement for the Jackson County, Wis., land, sale of which you have just completed. Your efforts have been entirely satisfactory to me, particularly as the land was only placed in your hands the latter part of February.
HENRY GRIFFITH, Shandaken, N. Y.

MARYLAND.
I received your letter this morning, enclosing check for my Maryland farm, the sale of which you have just completed. I consider your method of advertising and system of handling property furnishes the surest means of converting real estate into cash, which the present generation has an opportunity to enjoy. I thank you for your promptness in this matter.
J. BURNS, 7 W. 98th St., New York City, N. Y.

MASSACHUSETTS.
Your letter notifying me of the sale of my Dorchester property through your office is at hand. I must say you have handled the matter to my complete satisfaction. I have had my property in other agents' hands before who have put it on their books and seemed to forget it at once.
V. HARRIS, Rochester, N. Y.

MUTILATED PAGE

THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Rotation Will Help Make Eastern Farming More Profitable.

Last week you were told about a Kentucky farm, where the income had been increased decidedly, also about an Eastern farm where the income would not support the family in comfort. The two reports were given together purposely, hoping that Eastern readers might see one great point that there was not space to enlarge upon then. This it is: The Kentucky farmer promptly began a rotation of crops, after reading The Practical Farmer. The Eastern friend loses all the advantages that come from rotation. Of the land cleared of timber, about half is permanent pasture and half "hay land." This means he mows the 90 acres year after year and takes what comes. Rotation of crops on these 90 acres is not practiced. A little patch may be plowed for corn, or potatoes, or something, I do not know; but the bulk of the land stays in grass year after year. Judging from the amount of stock kept the hay land can hardly produce more than half a ton of hay per acre. Perhaps I may say something along this line that you may think out of place, my kind friends, but it will be with the earnest desire to do you good. I know about thousands of farms in the Northeast, where the plow land is nearly all hay land. It is mowed right along year after year, and often the returns are very small. If the land is so rocky that plowing is really not practicable, why there is no more to be said. The owners must usually get along with a very small income. This is sometimes the case, and I am sorry indeed for the friends thus situated. But often it may not be the case where people think it is. Doubtless a large part of the "hay land" of the New England States could be plowed and crops grown in rotation profitably. Where this course is practicable the improvement might soon be as marked, perhaps, as it was on the Kentucky farm told about last week. Difference in latitude makes no difference about the general principles that underlie successful farming. The only matter about which there is any question is whether local difficulties, such as rocks in the soil, side hills that wash, etc., will make the cost of plowing and working the soil too great in proportion to the returns received.

Forty years ago there was much less plowing done here where I live than there is now. One had to go a good ways to find a straw stack. Farmers that I personally knew kept the bulk of their land in grass and mowed it year after year. In some cases I know it did not produce over a ton of hay per acre in a favorable season, and decidedly less in a dry year. If you could get reports of the crops of hay in those years you would usually find it stated that new-seeded grass fields promised well, or yielded finely, but old meadows were poor, or almost a failure. Year after year these facts stared farmers in the face, and still they were slow to learn the lesson that was plain, namely, to not have old meadows, or mowing fields. Gradually a change did come about, however, owing to the influence of agricultural papers, and Farmers' Institutes and from the watching of the work of the more progressive farmers. Now there are straw stacks on about every farm, and corn and oats, etc., are commonly grown. Most farmers follow a regular rotation of crops. What is the result? Well, I have seen two or three tons of hay cut per acre on the same farms that I know rarely produced more than one ton years ago. This means that as much hay is grown, perhaps, as formerly, but on about one-third of the land. The other two-thirds are left for other crops, corn, wheat, oats, etc. And these crops are usually quite good. Our best farmers here hardly raise less than 25 to 30 bushels of wheat per acre now, and 50 or 60 of oats. Of course more are grown sometimes. Instead of having little to do except when haying, our farmers are busy all through the season, putting in, caring for and harvesting their various crops. The result is usually a largely increased net income.

But rotation of crops helps in other ways than those that have been named. First, it enables one to decidedly increase the available fertility of his soil. This by growing clover, say once in about four years, or, in some latitudes, by working in cow peas. The clover can take nitrogen out of the air and leave it available for corn, wheat, etc., following. These last named crops can not get nitrogen from the air themselves. Nitrogen costs considerable money when purchased in fertilizers. One can get it for nothing by growing clover in rotation, and about all he needs. Red clover, crimson clover and cow peas can all do this work for us. It is only a question of which you can use to the best advantage. Next, there is a large amount of unavailable plant food elements in all ordinary soils. When land lies in grass for many years nature only makes a very small amount of this available in a season, after a time, unless the land is very fertile. Sometimes there will not be more than enough to grow one-half or one-quarter of a ton of hay per acre, and still the land by no means poor, simply unproductive, as it is managed. Man can so handle this same land by means of good tillage as to make much more of the plant food elements in it available. The rotation gives him the chance to put in the tillage and get paid well for it too. Any land that can be readily plowed I certainly would not leave in grass or clover more than two years. During this time it should bring heavy crops. Stir and mix it up, the more the better, when you plow. Let in the air. The decaying sod, and the manure you have to put on, along with the tillage, will put the land in shape to grow increased crops. One great advantage of proper rotation is that you plow a heavy sod, before it runs out, thus adding a large amount of vegetable material to the land. This is just what is needed. To wait until the sod is practically about all gone, and then plow it, is to lose this chance. It is a serious mistake. Vegetable material decaying in the soil is a necessity for the best results from tillage. The Eastern farmer often says it is of no use to plow any more of his land for crops than he can put a heavy coat of manure on. He "knows" this, and so perhaps only three or four acres are plowed in a season. Truly it is not of much use to plow a run-out sod, that would produce about half a ton of hay and sorrel per acre, unless you can manure it. But a heavy sod, largely clover roots, that grew two or three tons of hay per acre the year before, has far more available fertility in it. Proper tillage on such soil should bring fair crops. What manure one has should be spread thinly all over the poorer parts of the field to be plowed, at least, and I should expect in time to be able to put some on all the land. We follow a regular 3-year rotation and manure all the land to be plowed each year, one-third of what we have. A manure spreader is helpful in putting on so light a coat evenly all over. We have used one ever since they came out.

Now let us take the case of the Eastern farmer who has been mentioned, as an example. The Practical Farmer has been requested by his best friends to try and help him to get out of the rut in which he is almost stuck. Alas, there are many others in something the same trouble. He has 90 acres of hay land. Suppose he should divide this into four equal parts. Then in due time, when he got going, he should have 22½ acres in corn, 22½ in oats, or spring wheat, and 45 in grass and clover each year. That is, he would mow a piece two years in succession. In due time he might grow more hay than he does now and have something like 900 bushels of corn, and as many or more, of oats, or 500 or 600 of wheat, if that crop was grown. The straw could be largely used for bedding. These figures are moderate, where the land is reasonably fit for farming and if it ever was fairly good soil. Of course other crops can be grown instead of those mentioned, according to location, climate and the wants of the farmer. For example, we grow Hungarian grass and oats in place of the corn. Hungarian is a valuable crop on a dairy farm in the Northeast. Further South winter wheat should be grown instead of spring wheat. Such details our friends should work out for themselves. The general principles of rotation are valuable everywhere. The reasons have been briefly given above. The details must be arranged to suit the locality. Now, my good brothers, this doctrine is a little contrary to what some of you have been taught, or may think. But wherever the land can be plowed without too serious expense, or loss from washing, it is surely right. I know that it has helped bring success in thousands of cases. You are wrong in keeping along in the old way and putting up with what comes. I want you to make more come. You can do it. You can force nature to give you much better returns from your land. This must come, with proper management and faithful work. The general statements made above are established facts. We have worked them out on our farm and know. Gradually bring your work into line with them and you will thank The Practical Farmer in the future.

Healthful Heating and Ventilation with Stoves. — Mrs. J. Y. Heartzler, Allentown, Pa., kindly writes of benefits received from following some of the hints given in these columns. She also asks that I explain, so a mechanic can understand, the matter written about last fall, of warming and ventilating living rooms with stoves. She wants the matter made more plain. Well, get any stove man, who is used to putting in furnaces, to fix a galvanized iron casing around your stove, leaving some 3 or 4 inches of space between the casing and stove and leaving the front, or at least the doors, uncovered. This casing should come tight down to the floor. It would be best to have the top, over the stove, drawn in on a slant to 12 or 14 inches, and about a foot of pipe extending upwards over the centre of the stove, through which the warm air can go up into the room. Beneath the floor have a galvanized iron pipe placed along the ceiling of cellar, extending from the outside of west side of house and turning up into the space under the stove with an elbow. Make it tight with mortar where the pipe goes through the floor. The pipe joints should be tight also. In size it may be from 8 to 12 inches, owing to size of stove. Thus your stove becomes a sort of warm air furnace, taking its air from outside, and bringing it warmed into the room. Any ingenious tinner who has ever seen a furnace can fix this arrangement, but better if he is used to furnace work. Now, you build a fire in the stove and the air between the casing and stove becomes warm and rises up into the room and this draws in more air from outside through the pipe, and so on. Thus fresh air comes in steadily whenever the fire is burning. But it won't come in real freely unless there is an easy way for other air to pass out. You can open a window at the top, but that is wasteful of heat and lets out the purest air in the room. The air at the floor should be taken out, as it is the coldest and the impurities in the air are steadily settling to the floor. A grate fire, or an open grate stove, like the old Franklin, will do this. A register into a warm chimney flue, in the side wall but close down to the floor, will do nearly as well. This register may be put into the flue that the stove pipe goes into, if chimney is built down to the floor and if the draught is strong enough to stand it; or it may be put into a flue by the side of stove flue. Warmth enough will go through from the stove flue to cause a good draught. In either of these cases the impure air will be taken out of the house up the chimney. This is right. If the chimney does not come to the floor you can put, say an 8 or 6-inch pipe into the chimney above where the stove pipe comes in and turning with an elbow pass it down along the wall to within 8 inches of the floor. This will take the air out from the floor and not trouble the drawing of the stove, if the draught of chimney is strong enough. Often it will be the case, but not always. You can fix to close pipe partly, or wholly, when you are starting a fire, by sliding a block in more or less. An excellent and simple way for many to manage will be to buy a Franklin open-grate stove and case around that, making it bring in pure air, take out the foul and at the same time give the cheer of an open fire. This will be the next best thing to the grate we have. It will

Modern Merchandising

Have you ever stopped to think about the question of getting your household supplies to the best advantage? Are you perfectly satisfied with the way things are running—with the prices you pay, the quality of the goods, the range of selection and the general question of making both ends meet? Perhaps you buy your supplies from the cross-roads store, just because your grandfather did. Perhaps you are tied up to the general store because you can trade in your butter and eggs at a low price and take it out in trade at a high price. Possibly you have never thought about it one way or the other. It is time to think. You have got to live and support your family. Your income is limited to so many dollars per year, and you have got to figure out the expense account so that things will come out right at the end of the year. If you can make both ends meet nicely and lay aside a tidy sum for a rainy day, you are only doing what every head of a family should endeavor to do, and if you don't do it you are simply inviting misery for the next time the crop fails. If a dollar looks as big to you as we think it does, we want you to think over this question of modern merchandising and see just what it means. It means different things to different people. To some it means buying everything on credit, then mortgaging the farm when settlement day comes around. Others think cheap goods the pathway to economy—the cheap, worthless trash that is advertised so brazenly at "the lowest price on earth." Many people send off to the city and get a jack knife at a 25 cents saving, and then fall back into the old rut in buying the balance of their supplies. Our idea of modern merchandising is to supply all your wants—everything you eat, wear or use—for yourself, your family and the hired man, at an average saving of 15 to 40 per cent, which means that if your yearly purchases amount to $200, you can save something like $50; or $100 if it costs you $400 a year to live. Are you so well off that $100, or even $50 does not interest you? Then again, consider the advantages. Absolutely reliable merchandise of the very best quality, and an unlimited range of selection. New goods. Prompt service. Prices that spell economy, and the certain knowledge that absolute satisfaction is the keynote to every transaction. To make trading with us possible, we issue a catalogue of 1128 pages, in which almost everything imaginable, including Vehicles and Farm Implements, is illustrated, described and priced. This catalogue can be absolutely depended upon and enables you to select your entire bill of merchandise without hurry or confusion and with the certainty that everything will be found exactly as described or you need not keep it. We ask you to get out of your present rut and give our methods a trial. We satisfy others and will satisfy you. There never was a better time than right now to begin, for we have just issued a new catalogue full of the things you will need to see you through this winter, and you can make no better investment than to fill out this coupon and send it to us now while the subject is in your mind. We ask 15 cents, merely as an evidence of good faith on your part. If you will risk 15 cents, we will risk sending you a catalogue that costs us over half a dollar to print and is so big that it requires 26 cents postage. It is our 76 cents against your 15 cents. Will you do it? Write today!

Laying in Supplies: Living from hand to mouth is one way of living, but why not get your supplies on a wholesale basis and avoid the petty annoyances of retail buying, to say nothing of making four dollars go as far as five dollars used to. That's the grocery list you see hanging on the wall. Supplied with loops to hang up with. A postal will bring it. Nothing like groceries for a foundation for a 100-lb. freight shipment.

Montgomery Ward & Co.
Michigan Avenue, Madison and Washington Streets, Chicago

Thousands of readers of this paper noticed our advertisement last month and sent in their application for our Catalogue No. 72. A new edition is just off the press. Requests will be filled in order of their receipt. Do not delay.

37

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Enclosed find 15 cents for partial postage on Catalogue No. 72, as advertised in Practical Farmer.

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cost less. The chimney need not be altered at all. The Franklin sits in the room, same as any other stove, and the pipe goes into the same chimney hole. Your dealer can get one for you. The cost in New York, complete with grate, but not the casing, is from $14 to $30, according to size and finish. I could get one cased and piped here for about $15, by our furnace men. By putting a Rochester radiator on the perpendicular pipe above the stove it would be something nearly as economical of heat as our Jackson grate. The Franklin open-grate stoves are used for burning hard and soft coal, wood and gas. They were invented by Benjamin Franklin in 1742, and were called by him: "Open stoves for the better warming of rooms (better than with the old fireplaces)," and he gave them the name of "Pennsylvania Fireplaces." There were at first heat chambers at the back of grate into which out of door air was introduced and warmed. Franklin said of the arrangement: "My own room is twice as warm with one-quarter the wood I formerly used. I suppose from one-third to two-thirds of the fuel is usually saved." This invention of Franklin has been perfected into the Jackson grate and the Franklin stove. Would that it might be spread broadcast throughout the land in place of the wasteful common grate and stoves that do not take the foul air out of the home.

T. B. Terry.

The Drinking Water Supply.

F. C. CURTIS.

In The Practical Farmer of Oct. 31st Mr. Terry advises a correspondent how to build a cistern, and tells him lead pipe is best and that "there is no danger from poisoning." A number of years ago the Board of Health of the State of Massachusetts issued a pamphlet upon this subject, and in giving the serious results from this practice, advised that under no circumstances should lead pipe ever be used for conveying water for cooking or drinking purposes. The action of water upon lead pipe varies. In some cases it wears the pipe away naturally, the friction removing the fine particles too fine to be seen. In other case a coating is formed inside of the pipe, and as long as this coating remains unbroken there usually is not much trouble, but the slightest jar breaks it and it comes up through the pump in tiny flakes and the user has a first-class case of lead poisoning. The latter form gave the writer and his family an experience from the effects of which it required years to recover, and if Mr. Terry could suffer for a few moments the intense agony developed in a case of lead poisoning he never would advise his correspondents to use lead pipe. Then Mr. Terry advises the construction of a filter arranged so that he can get "down to clean it out." Now cleaning the cistern itself is not a very agreeable task, but getting down into a filter must be very entertaining; I would like to see a man of Mr. Terry's bulk try it. But why is it necessary to clean it? Do not the bricks keep out the sediment, or do the porous bricks admit some dirt? And if some, why not some more? And by the time they are saturated the mortar will commence to disintegrate and the Virginia reader will get water, dirt and all, as long as there is any in the cistern. What is this sediment which the filter is supposed to keep out, but does not? Why, it's just dust from the road. And what is in the road? Oh, horse manure, cow and sheep manure, etc., which dries and is blown to the roof to be washed into the cistern by the first shower and then to be pumped up to fertilize the human stomach. Turning off the conductors is theory—never practiced, always forgotten. The way to keep the water as free as possible from this nasty, horrible smelling sediment is to prevent its entrance to the cistern. Place a box on the top of the cistern so arranged that all water from the roof shall pass up (not down) through alternate layers of gravel and charcoal and thence into the cistern. Clean out the box frequently and then as the sediment is left in the box as the water rises, you will have as clean water as it is possible to obtain from the roof of a building.

Sandy Creek, Me.

[The best authorities agree that there is very little danger from the use of lead pipes if the water is hard. But with soft water there is a real danger, and we would never use a lead pipe in rain water. Nor would we use galvanized iron pipes, for there is about as much danger from the zinc as the lead. We would use plain iron pipes. The best filters we have ever used for a cistern were brick receptacles at each down pipe, with a flat stone cover cut in basin shape with a hole in the bottom to let the water pass. The space inside was as large as a hogshead and was filled with broken charcoal covered with clean gravel to keep the charcoal down. From the hole in the top a pipe went to the bottom and the water passed to a pipe leading to the cistern by overflow at the top. Surrounding the pump in the cistern was a wall of salmon bricks laid in Portland cement, so that the water was forced to pass through the bricks and not through the joints. The charcoal and gravel were renewed each season before beginning to collect the water, for no summer rain was collected. The roofs were extensive and the cisterns very large, 16 feet in diameter and 18 feet deep. They were covered with T iron beams with brick arches thrown between them and all covered thickly over with Portland cement except at an iron covered manhole, no wood being anywhere about the cistern. Through the manhole the cistern could be cleaned, including the outside of the filtering wall and there was never any need, nor was there any room, for going inside the filter wall. In these large cisterns, of which we had two, the winter water kept very cold till after midsummer, and as no water was admitted till after the roofs, which were slate, had been washed by the fall rains and the dust season was over, there was very little dirt to get in, as the roof birds, except the sparrows, were absent.—Ed.]

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Street Sweepings. — P. F. Reader, Edgecliff, Pa.—"What is the manurial value of street sweepings for a large city like Pittsburg?" We cannot possibly say, for the value of the sweepings will vary greatly with the locality where they are gathered. At times the repairs on the streets may throw a great deal of dirt and sand into the sweepings. But as a rule the sweepings from a paved street will be largely composed of the droppings of horses, and being in a finely comminuted state, will be valuable as a manure. True, there is almost an entire loss of urine which has the greater part of the nitrogen, and to this extent stable manure where bedding is used to absorb the urine may be better. But where the sweepings can be had cheaply it may pay better to use them than the ordinary manure full of straw and wetted down by dealers to increase its weight. We have found the street sweepings very valuable as a material for making compost for flower pots in the greenhouse. Where they come from a neighborhood where feed stores abound there will be a great many grass and weed seeds in them. No more, however, than are ordinarily found in stable manure.

Calf Scours Cured

Hood Farm Calf Scour Cure and Digestive Powder do the work. Severest cases cured.

Each Remedy, $1; large (four times dollar sizes) $2.50. Sent to any railroad express point in U. S., 25c. extra. C. I. HOOD & CO., Lowell, Mass.

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is usually in the wheel. They receive the strain and wear. They dry out, spokes and felloes rot, tires come loose. Get the service out of wheels you do out of gears by using

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You have a wagon for a life time. Electrics are the staunchest, tightest, easiest running wheels made. Straight or staggered oval steel spokes, cast in the hub, hot riveted in tire. Broad tires, no rutting, light draft, any height, fit any wagon.

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is a good lantern. A poor one—the smoking, flickering, faintly gleaming kind which blows out easily—is an abomination. You've seen them, perhaps you own one. The reliable kind is the

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Appleton Manufacturing Co. 25 Fargo St., Batavia, Ill., U.S.A.

Lawn in Colorado.—M. Hess, Indian School, Grand Junction, Col.—"Is it best to sow blue grass alone to get a lawn, or would it be advisable to sow something with it to give a good appearance while the blue grass is coming on? I have a lawn of five acres on the school grounds that I wish to seed. It is in fine shape and well manured. I am thinking of sowing late this fall and covering with straw to be raked off in the spring. What seed should I use? I would like to get a few books for teachers use in teaching elementary agriculture. Can you suggest something good? I have been a reader of The Practical Farmer for thirteen years, and owe much of the success I have had to its teachings." In making a lawn we generally use a mixture of four bushels Kentucky blue grass, one bushel of red top and half a bushel of perennial rye grass per acre, well raked in and rolled. The red top makes the first appearance, and the rye grass will be apt to get into bunches, but it stays long enough to shelter the blue grass, which is slow coming on. By the time the blue grass has gotten possession the other two will have disappeared on high land. We would sow the seed at once, and would not put the straw on, as we believe it will do more harm than good. Professors Burket, Stevens and Hill, of the North Carolina College of Agriculture, have recently gotten out the best work on agriculture for beginners that we know of. It is published by Ginn & Co., of New York, and is well gotten up and finely illustrated.

Making a Meadow in N. C.—Cicero Thompson, Clover Orchard, N. C.—"In establishing a meadow on low land, what grass is best to use, and how put in, with oats or alone?" If you were in a different climate we would say that timothy and red top would make the best meadow. But in your climate timothy is a very transient grass, though it does excellently in the high mountain country of your State. But in Alamance county we would never use timothy. A mixture of tall meadow fescue, 10 lbs., perennial rye grass, 5 lbs., foul meadow grass, 5 lbs., and red top, 5 lbs., will make a good mixture per acre for your low lands. The red top will make the second cutting more than the first. We would put the land in the best possible order and sow the seed alone, and would then scatter about 5 pounds per acre of alsike clover, as the clover seed cannot be kept mixed with the grass. Then harrow lightly with a smoothing harrow, and if the land is dry, roll. If the land is not too wet red clover will do better than alsike. Sow any time in November when the ground is prepared.

Rotation for Maryland.—S. H. Wilson, Pylesville, Md.—"Please give me your opinion of a four-year rotation of corn, potatoes, wheat and clover, in the northern part of Harford county, where all these do well." We would prefer to make it a three-year rotation and let the corn and potatoes occupy the same field, half and half, for the clover sod will be equally demanded and profitable for each. Then in the next round of the rotation put the potatoes on the land where the corn was before, putting the stable manure on the corn part only, and use commercial fertilizers for the potatoes. In this way the potatoes will get some benefit from the manure after it has gotten completely assimilated with the soil. Then cut the corn early and disk the land completely for wheat and put the shock rows in oats in the spring. This will bring the clover on the land more frequently and will improve the soil faster than a four-year rotation. Still, if you want to devote a whole tend in the rotation to potatoes, and have manure enough to cover the corn land you can grow very good crops of potatoes after the corn, especially if you will sow cow peas among the corn at last working and let them die on the land, and sow rye among the dead vines to be plowed under for the potatoes, using commercial fertilizer liberally on the potatoes. There is no doubt that you will thus be able to get better crops of wheat after the potatoes, as you will have a better chance to prepare the land thoroughly. Managed in this way, a four-year rotation will work well.

Phosphoric Acid, Lime and Clover.—F. Padelt, Muskegon, Mich.—"Mr. Terry says the cheapest way to get phosphoric acid is to buy the acid phosphate, which of necessity contains a considerable amount of plaster, and that it would be as well to get the plaster needed in stables for preserving the manure in this way, and get the gypsum free. I am using from one to two tons of plaster every year in the stable and on the manure pile, paying an average of $5 a ton and hauling it four miles. I am trying to improve a light, sandy soil with clover in a regular rotation, and crimson clover, cow peas and sand vetch as catch crops wherever I can get a chance for them. Have a piece of vetch and wheat now growing for hay next summer. Mowed a similar piece last June and got about two and a half tons of hay per acre, and the land was sown in cow peas the first week in July, and they did splendidly. As I had had a crop of hay from the land, I intended to let these die down and turn them under for strawberries. After cultivating them several times I sowed barley between the rows at last working. The barley showed up nicely. Had some peas elsewhere to cut for cow feed and when they were gone this lot looked so tempting that we began to cut them for the cows. Killing frost did not come till late in October, so that we fed them all. The barley shows up green all over, and will probably grow till the end of November, when I will turn it under and leave till spring. In a reply in The Practical Farmer for October 31 you say that the place in a rotation for lime is on clover the second spring. I seed clover with buckwheat after turning under a strawberry bed. Now, in this case would the first spring after seeding be the proper time to apply the lime?" What Mr. Terry meant was that the acid phosphate sells entirely for the value of its content of phosphoric acid, no commercial value being attached to anything else in it. Now as the acid phosphate is made by dissolving the phosphate of lime with sulphuric acid to render the phosphoric acid in it soluble, it necessarily follows that a considerable amount of the sulphate of lime is formed, so that acid phosphate will usually have in it about 40 per cent. of land plaster or sulphate of lime. You buy the phosphoric acid and the plaster is thrown in. The acid phosphate will be far better for the stable, since it will supplement the manure with phosphoric acid in which it is usually more lacking than in other things. For the preservation of the manure and prevention of fire-fanging we would prefer kainit to either acid phosphate or plaster, but it will with you be more expensive, as it is all imported from Germany and the freight from the seaboard will be quite an item. In speaking of spreading lime on clover the second spring we, of course, referred to the clover that is sown in the spring. When clover is sown in the summer we would apply the lime the next spring before growth begins and where, as is the case here, clover is sown in the fall, we would put on the lime in the spring following. Your peas certainly did remarkably well for so far north. It shows very plainly that a warm, sandy soil is of more importance to the cow pea than the particular latitude. We doubt that you could have the same success in your climate on a heavy clay soil. Here it is almost the universal practice to sow the peas among the corn at last working, and in the fall the dead and ripe corn stalks can be seen standing in a mass of green foliage waist high. In the southeasten part of North Carolina some growers are having great success with the velvet bean, which makes a heavier mass of growth than the cow pea, but they say is even more easily harvested, and leaves more nitrogen in the soil. But the season is not long enough to ripen the seeds north of the section where the saw palmetto is found in the swamps.

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

Monarch Feed Mills.—At this season of the year a subject of great interest to the farmer and feeder who studies economy in feeding is the feed mills. Without wishing to disparage any other good mill, there is one which from every view point, seems to meet admirably farm requirements. It is the Monarch, manufactured by Sprout, Waldron & Co., Box 224, Muncy, Penna. It grinds coarse, medium or fine, just as desired. It is alike perfectly at home in the matter of making a fine article of meal for household purposes, and for the grinding of ear corn, shelled corn and all the feed grains either singly or mixed, for chop feed. Get the Monarch catalogue before placing an order. It is free if you mention The Practical Farmer.

Not Recommended for Everything

But if You Have Kidney, Liver or Bladder Trouble, You Will Find the Great Remedy Swamp-Root, Just What You Need.

It used to be considered that only urinary and bladder troubles were to be traced to the kidneys, but now modern science proves that nearly all diseases have their beginning in the disorder of these most important organs.

Therefore, when your kidneys are weak or out of order you can understand how quickly your entire body is affected, and how every organ seems to fail to do its duty.

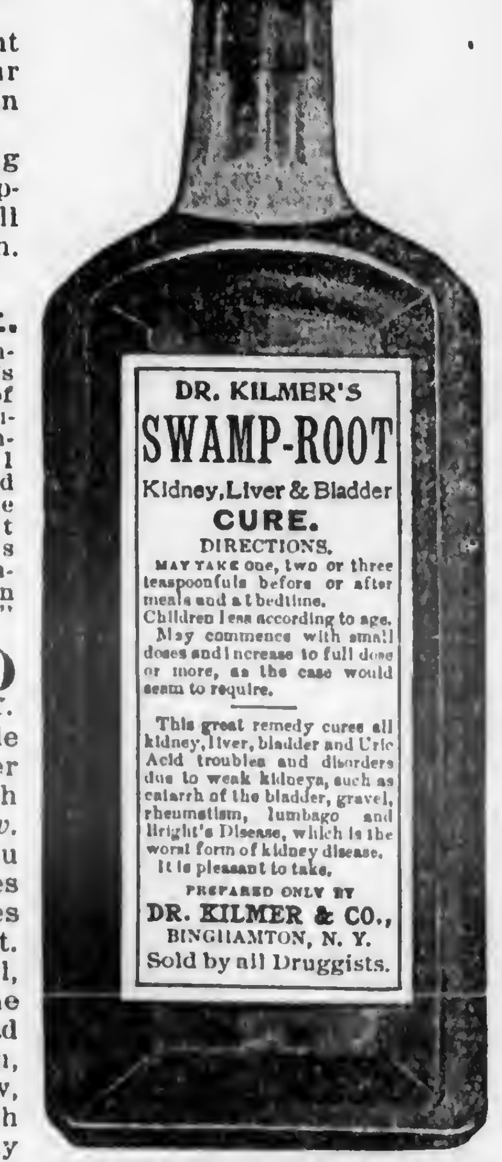
If you are sick or "feel badly," begin taking the famous new discovery, Dr. Kilmer's Swamp-Root, because as soon as your kidneys are well they will help all the other organs to health. A trial will convince anyone.

Doctors Prescribe Swamp-Root.

Gentlemen:—"I have prescribed that wonderful remedy for kidney and bladder complaints, Dr. Kilmer's Swamp-Root, with most beneficial effect and know of many cures by its use. These patients had kidney trouble, as diagnosed by other physicians, and treated without benefit. Dr. Kilmer's Swamp-Root effected a cure. I am a liberal man and accept a specific wherever I find it, in an accepted school or out of it. For desperate cases of kidney or bladder complaint under treatment with unsatisfactory results I turn to Dr. Kilmer's Swamp-Root with most flattering results. I shall continue to prescribe it and from personal observation state that Swamp-Root has great curative properties."

L. Barton Irish M.D.

276 9th St., Borough of Brooklyn, N. Y.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SWAMP-ROOT
Kidney, Liver & Bladder
CURE.
DIRECTIONS.
MAY TAKE one, two or three teaspoonfuls before or after meals and at bedtime.
Children less according to age.
May commence with small doses and increase to full dose or more, as the case would seem to require.
This great remedy cures all kidney, liver, bladder and Uric Acid troubles and disorders due to weak kidneys, such as catarrh of the bladder, gravel, rheumatism, lumbago and Bright's Disease, which is the worst form of kidney disease.
It is pleasant to take.
PREPARED ONLY BY
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BINGHAMTON, N. Y.
Sold by all Druggists.

(Swamp-Root is pleasant to take.)

Weak and unhealthy kidneys are responsible for more sickness and suffering than any other disease, and if permitted to continue much suffering with *fatal results are sure to follow.* Kidney trouble irritates the nerves, makes you dizzy, restless, sleepless and irritable; makes you pass water often during the day and obliges you to get up many times during the night. Unhealthy kidneys cause rheumatism, gravel, catarrh of the bladder, pain or dull aches in the back, joints and muscles; makes your head ache and back ache, causes indigestion, stomach and liver trouble, you get a sallow, yellow complexion, makes you feel as though you had heart trouble; you may have plenty of ambition, but no strength; get weak and waste away.

The cure for these troubles is Dr. Kilmer's Swamp-Root, the world-famous kidney remedy. In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

If there is any doubt in your mind as to your condition, take from your urine on rising about four ounces, place it in a glass or bottle and let it stand twenty-four hours. If on examination it is milky or cloudy, if there is a brick-dust settling, or if small particles float about in it, your kidneys are in need of immediate attention.

No matter how many doctors you may have tried—no matter how much money you may have spent on other medicines, you really owe it to yourself to at least give Swamp-Root a trial. Its stanchest friends today are those who had almost given up hope of ever becoming well again.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root—Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

Sample Bottle of Swamp-Root Sent Free by Mail.

EDITORIAL NOTE—If you have the slightest symptoms of kidney or bladder troubles, or if there is a trace of it in your family history, send at once to Dr. Kilmer & Co., Binghamton, N. Y., who will gladly send you by mail, immediately, without cost to you, a sample bottle of Swamp-Root, and a book containing many of the thousands upon thousands of testimonial letters received from men and women cured. In writing, be sure to say that you read this generous offer in the Philadelphia Practical Farmer.

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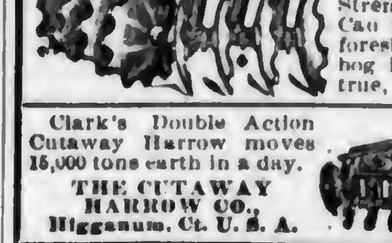
Send your name on post card for our Free Bulletin. WILLIAM S. MYERS, DIRECTOR, 12 John St., New York City.



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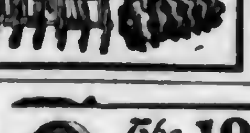

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(*Patent Applied for*)

make efficient shredders out of "Ohio" Feed and Ensilage Cutters. The **New Shredder Blade** is the regular "Ohio" knife with solid integrally projecting bits which cut and tear corn stalks into a nicely shredded condition, as shown in the picture. It makes corn-hay of the fodder.

Shredder Blades are interchangeable with knives on all sizes "Ohio" Cutters. They successfully reduce fodder to the proper condition and do not pulverize the leaves like other styles. **They shred** with the same power, speed and capacity as "Ohio" Cutters, and either the Chain or Blower Elevators handle the shredded corn perfectly. **Speed**, 600 to 700 revolutions. **Power**, 2 Horse Tread up to 12 h. p. Engine according to size. Let us send the 1903 catalogue of "Ohio" Cutters and Shredders. "Modern Silage Methods" 10c, coin or stamps. Manufactured by

THE SILVER MFG. CO., Salem, Ohio. *Established 1854.*

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Stomach Staggers.—I have a saddle horse that seems to have something like fits. All of a sudden he will go perfectly blind and stagger backwards, and sometimes fall. It passes off in a minute or so, and then he is all right. I have changed his feed to various things but none seems to do any good.
Heathman, Miss. O. C. STUBBLEFIELD.

See that horse gets exercise or work every day and that his stable is clean and well ventilated. Do not feed heavily on grain, and give the drinking water before meals. Do not feed hay at noon when there is work to be done. Give him two tablespoonfuls of glauber salts in drinking water night and morning and increase amount if it does not tend to keep his bowels open. Drive him in breast collar. If coat is thick and long have him clipped.

Hard Milker.—I have a young heifer cow two years old last May, when she had her first calf. She gave her milk freely until within the last two months; she draws her milk up out of the udder nearly every time we go to milk her. I feed her well and treat her kindly, but it does not seem to make any difference to her what we do, she will not let her milk come down. T. W. DONNISON.
Spring Valley, N. Y.

It is difficult to overcome this trouble by hand milking, but if a calf is allowed to suck for a week or so you may find that the milk will then be let down naturally. She has probably had a scare of some kind at milking time, or milking has been painful.

Difficult Parturition.—I have a sow that gave birth to ten pigs three weeks ago. She seemed to have a hard time; she would make manure two or three times between pigs. I moved her from where she had pigs about thirty steps to a shed to get her a cool place. I noticed she walked a little lame. She did not eat a bite for two days, and seemed to suffer a great deal; one side of her bag got hard and hot; she could hardly stand when helped up; she began eating very little and has just now begun to eat right. She has had three litters; with the first one she had something like rheumatism when the pigs were about two weeks old and until they were weaned. C. E. CARPENTER.
Loyd, N. C.

Your neighbors are doubtless correct in their opinion of this case, as such trouble is quite common where a sow is fat and gets too little exercise prior to farrowing. In future she should have her pigs without trouble if you feed her on food calculated to keep the bowels moving freely and allow sufficient exercise to keep the muscles in full tone and strength. No disease is present but she was merely too constipated and soft in condition to go through farrowing with ease. There should be no objection to breeding her again if you can arrange to give her roots or other soft or succulent food prior to parturition, and plenty of exercise both before and after that time. A full dose of epsom salts should be given when the udder is found inflamed and hard and parts should be well fomented with hot water several times daily and then rubbed with belladonna ointment.

Fungoid Growth.—I have a 3-year-old horse mule that was cut by wire fence, on neck, on line with collar just above where the weight of collar comes towards head. Cut is about 8 inches long and from 2 to 3 inches wide. This cut has healed up and is now a long wart. When I take harness from mule after work he scratches and keeps it raw and bleeding all the time. GEO. PENDELL.
Ysleta, Texas.

Wound was improperly treated and has become invaded by a fungus spore (botryomyces) which will make it difficult to heal. Horse should be cast and the growth cleanly dissected out, after which the wound should be rendered thoroughly aseptic by washing with 1-1000 solution of bichloride of mercury and dusting with a mixture of one part iodoform and six parts boracic acid. This having been done the lips of wound should be brought together by sutures more of the powder then sprinkled and the part covered with a thin [illegible] of cotton batting to exclude air. [illegible] well done wound should heal by first intention. The animal must be kept from rubbing the part.

Garget.—Can you tell me what will cure swelling in cow's udder? The cow was all right in the morning and at night came to the stable with one quarter of udder swollen. Will you tell me if the right name is "gargle" for swollen udders? I have heard so, but am not sure. WM. PANCOAST, JR.
Academy P. O., Pa.

As you will see from the title of this reply, the proper name is garget, not "gargle." Technically the disease is termed mammitis, or inflammation of the udder or mammary glands, and the cause may be one of many. Such causes are bruise from any cause, sudden change of food, causing indigestion, lying upon cold or hard ground, imperfect milking, entrance of germs by way of the teat, etc. On general principles such cases should be treated by giving a one-pound dose of epsom salts with an ounce each of ground ginger root and powdered saltpetre in two quarts of warm water. Udder should be fomented with hot water three times daily then well rubbed with a lotion composed of two ounces each of fluid extracts of belladonna leaves and poke root in six ounces of soap liniment. When inflammation subsides and udder still remains hard rub once daily with a mixture of equal parts mercurial ointment or iodine ointment and lanolin or lard. During treatment feed lightly so as not to encourage a great flow of milk. After physic has acted give one tablespoonful of saltpetre in water night and morning until the animal is well.

Capped Knee.—I have a cow that has a bunch on her knee about as big as a pint dipper, and it is soft and don't seem to be sore. It has been there about seven or eight months. MRS. JOHN JACKSON.
Songo Lock, Me.

The enlargement is filled with serum, which should be liberated by operation. It would be best to have this done by a veterinarian, but if none can be called in, put the cow in stocks or secure her by other means, then clip hair from lower part of bunch, press the fluid downwards and make an incision from lowest part of enlargement upwards, through which remove the fluid and the clots usually found in such sacs. The opening should be made large enough to introduce one or more fingers with which to break down adhesions and remove clots. When this has been done syringe well with tincture of iodine, so that all of the inside surface of sac will be wetted with the medicine. Afterwards pack cavity with oakum saturated in a mixture of one part turpentine and three parts raw linseed oil, leaving a tag of the oakum protruding from wound to act as a drain. Remove oakum daily, syringe out with 1-1000 solution of bichloride of mercury, then pack with the fresh oakum saturated in the oil and turpentine mixture. The ordinary manner of treating such abscesses is to insert a tape seton, but the plan we have outlined is to be preferred. Keep cow in a well bedded box stall.

Worms.—I never have had any trouble to keep my horses in good order until I began to scatter the droppings in the pasture on the portions where they ate it down close. I thought it was a great economy, but last season my horses got thin and I tried all winter to get them in good flesh by liberal feeding of oats and clover hay, but they steadily grew worse until spring, and I could hardly get any work done with them. They have kept in poor condition all summer and have little strength to work. Last winter I had a flock of 60 sheep badly infested with parasites and most of the winter I fed the leavings from the sheep racks to the horses. I concluded that the trouble must be worms and began the treatment you prescribed in a recent Practical Farmer. Gave two ounces of turpentine in a pint of raw linseed oil, and followed with one drachm sulphate of iron twice a day. DON B. HUSTED.
Mantua Sta., O.

Intestinal parasites of sheep are not harbored by horses, but it is likely that you have infested the entire pasture by spreading on it manure from one or more infested horses. We consider it a poor practice to top dress pastured grass with stable manure during the grass growing season. It should be spread on late in fall or very early in spring and should first be mixed and "made," in which state worm eggs will be less liable to do harm. Continue treatment and add a tablespoonful of Fowler's solution of arsenic night and morning for each adult horse. It would also pay to feed molasses freely, mixed with food as advised in previous issues of the paper.

Lameness.—I have a 4-year-old colt. He has been lame in his left front foot for two months. There is a little swelling on each side of the hoof. I think the joint in the hoof is sprained. J. H. WEIKERT.
Madison, Ind.

It is impossible to give practical advice in lameness cases without a personal examination. If you are sure that you have located seat of lameness try effects of a blister to the coronet, using the ointment so often advised in this department of The Practical Farmer.

Ear Canker.—I have a valuable cow that for nearly a year past has had discharges of foul smelling matter from the ears. Have noticed for two or three years that she frequently shakes her head and thought it only a habit until last winter she did not come up one night to be milked, and I found her late the next day much reduced in strength. From that time on have noticed these discharges. She eats well, is in good flesh and has given her regular mess of milk right along, but has just gone dry and is due to calve next month. Have syringed out ears with carbolic acid and water. CHAS. J. AUSTIN.
Tifton, Ga.

Such cases are rare. Disease is not contagious. Cleanse ears with wood alcohol on swab of cotton batting tied on stick. When clean dry thoroughly then work down into ear a mixture of two drachms each of iodoform and the powder known as stearate of zinc and balsam Peru. Have the two powders well mixed. Repeat dressing as required.

Impaction.—I lost two head of cattle last month. They both laid around until they died. One of them ate some all the time; the other one did not eat anything; one of them lasted three days and the other several days longer. I cut them open and found their manifold very dry and gall was very yellow, with bloody water in it. Cattle in good fix; had been running on orchard grass and blue grass pasture on fresh land; also plenty of water and salt. H. B. DYER.
Hiwassee Sta., Tenn.

You do not furnish many facts on which to base a diagnosis, but we suspect that death was due to impaction of the third stomach caused by lack of succulent food. While they have been getting water and salt enough it would be well to furnish roots or silage to keep bowels open and if this cannot be done then give small doses of glauber salts in water whenever the manure is seen to come in dry balls. At the outset of an attack cattle may often be saved by administering from one and one-half to two pints of castor oil shaken up in milk and to be followed by stimulants every three or four hours. Rectal injections of warm water and glycerine are also helpful.

Verminous Bronchitis.—I have four calves four to six months old. They are all weaned but one. They have an awful cough by spells, as though they were choked; breath short and fast at these times. They eat grass good only when they have these choking spells. They have these spells three or four times a day. M. S. MOFFAT.
Eldred, Pa.

The cough is due to the presence of thread-like worms in the windpipe and lungs. Give each calf a tablespoonful of turpentine in four ounces of raw linseed oil. Expose calves for a few moments daily to the fumes of burning sulphur in a close building, the door and windows of which can be thrown open at once when suffocation threatens. In bad cases a mixture of turpentine and tincture of iodine in sweet oil should be injected into the trachea by means of a hypodermic syringe. Feed calves generously upon ground oats and bran with a small addition of dried blood meal. Milk should also be provided, if possible, until they throw off the disease. Disease is contracted upon old pasture, which should in the future be avoided for calves.

Cribbing and Wind Sucking.—I have a horse five years old, in good condition. He has a habit of biting and groaning. When hitched to a fence he will barely catch hold and bite and groan, and it is the same way when turned in the stable; he is biting at manger. J. E. P.
Goodlettsville, Tenn.

The habit is practically incurable, and is usually learned while horse is cutting teeth, when, from irritation and pain of gums, he is apt to bite on manger or other object. Place him in a box stall from which everything has been removed upon which he could set his teeth to crib and windsuck. Also buckle a strap tightly around his neck just back of ears. You may also discourage the habit by smearing neckyoke or other object upon which he cribs when out of the stable, with some objectionable salve such as Barbadoes aloes in lard.

Knee Striking.—I have a 4-year-old mare that can trot in three minutes, and could trot faster but her left front foot turns out and she strikes her right knee.
Pylesville, Md. S. H. WILSON.

After having the foot properly leveled, your shoer will have to experiment until he hits on a shoe that will balance the gait. It is impossible without personal examination to advise a shoe for all cases. Sometimes we have to put the weight on the inside or at the quarter, or on other side before managing to obtain straight action. A toe weight is valuable in making tests in that it may be put on at different places until it has the desired effect.

Weak Foals.—I have a mare 12 or 13 years old, weight about 1,200 pounds; has lost three colts after two or three days; seems healthy at first; their water is bloody. She has raised one horse colt and has not raised a mule colt. The mare seems healthy, gains flesh rapidly when in foal; at birth the mare does well and nothing seems to go wrong with her. Colts develop good.
Guilford College, N. C. S. G. WHEELER.

Foals may be weak from imperfect feeding of mare, and possibly from giving her too little exercise. She may appear fat yet be starving her unborn offspring. This is most likely to be the case where corn is fed instead of oats and bran and mare is kept indoors. Turn her out, or, better still, work her lightly up to foaling time. Feed her well on oats and bran with good hay, and prevent her from becoming constipated but do not give a physic to pregnant mare. Bowels may be regulated by use of succulent food, such as roots. Foals are also apt to die of blood poisoning from germs taken into the system by way of the raw navel cord. To prevent this have foal born in clean place and immediately wash cord of navel with a solution of two drachms of corrosive sublimate and half a drachm of hydrochloric acid in half a pint of boiling water used cold. Repeat dressing with this solution once or twice daily until cord shrivels up, drops off and leaves no raw spot.

Enlarged Hock.—We have a 2-year-old filly that was shot last Christmas by hunters. The shot passed through between bone and leader of the hock joint of hind leg and she had to be helped up for a while; she got over her lameness and can use her leg all right: the joint is about four times its normal size and is soft and not calloused to the bone. R. N. LEIGH.
Womack, Mo.

In such cases treatment should be given early to prevent this enlargement. If it is blistered it will become hard permanently, so we would advise you to rub it every other day with mercurial ointment and allow free exercise on pasture or at work. It will not reduce without such treatment.

Chronic Cough.—Will you please give me a remedy for my cow? She eats and is healthy, but coughs all day and night. I keep in a clean and dry stall.
Augusta, Ga. J. H. MEYER.

If a cow is thin you should have her tested with tuberculin, as there is a suspicion of tuberculosis in such cases. See that stable is clean and well ventilated and that all food is free from dust or mould. Use land plaster freely about floors and gutter to prevent ammonia gas from irritating throat and lungs. Give an ounce of glyco-heroin every four hours.

Polyuria.—I have a colt, foaled last April. It has urinated every half hour ever since it was foaled. I have taken it from the dam and feed it on oats timothy and cow peas, and still it does the same. The urine is white and it leaves a sediment on colt which scalds it so it is sore all the time; otherwise it is healthy.
Waburn, Ill. W. M. PATTERSON.

Give the colt a four-ounce dose of castor oil shaken up in milk. When oil has ceased to operate feed flaxseed jelly with the oats and bran and mix flaxseed tea freely in drinking water, which should be soft, not hard from the presence of lime. Give two drachms of sanmetto three times daily and increase the dose gradually if it proves ineffective. If the frequent urination persists add a few drops of fluid extract of ergot to each dose of sanmetto and increase dose until urination is regulated. Carefully avoid food that is in any way mouldy or spoiled in the slightest degree. Allow plenty of out-door exercise and see to it that the box stall used by the colt when in stable is kept clean and well ventilated.

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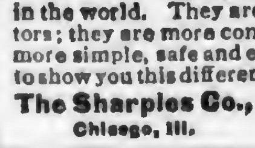

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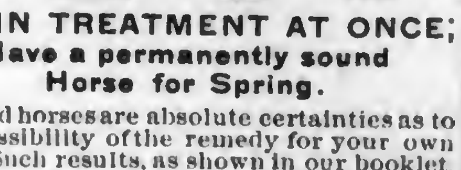

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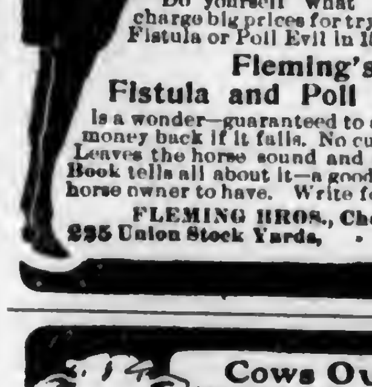

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Notes from a Carolina Garden.

The most showy thing in the flower garden now (November 2nd) is a bed of Pompone chrysanthemums. They grow dwarf and bushy and make a wonderful profusion of their little flowers, and as the bed mentioned has in it 25 varieties, each plant of uniform height and each with hundreds of blooms, the show is fine, for the colors run from pure white, through golden yellow, bronze and purple to the richest crimson, and the bed makes a finer show than the big ones that have been disbudded to increase the size of the flowers. Then, too, the little Pompones are hardy in the North, though both stand our winters very well.

I received today from the Agricultural Department in Washington, a lot of bulbs of tulips, hyacinths and narcissus grown in the State of Washington. The tulip bulbs are the largest I ever saw, many of them being as large as the largest Dutch hyacinth bulb. The Department is putting them in the hands of Station investigators to note the difference that climate may make. The hyacinths compare very well with the imported Dutch bulbs, while the narcissus are about equal to what we grow here. The tulips and the narcissus have been planted in the garden, but as there were but 15 of the hyacinth bulbs we potted them for the house and placed them in the cellar in total darkness to make roots, and will bring them in a month or more later to decorate the bay window in our dining room. We have planted some thousands of our own narcissus bulbs and will be interested in noting the difference between them and the Washington bulbs. The moist and equable climate of the North Pacific Coast should be a fine place for the culture and perfection of the hardy bulbs, and for the more tender ones we feel confident that Eastern North Carolina will soon be growing the Bermuda lilies to perfection, as we are gradually learning their needs in this climate. Our Bermuda lilies went in the ground today. The soil had been heavily manured with well rotted compost and we will now place on the top a dressing of Lobos Peruvian guano.

November came in with warm sunshine and the mercury climbing up near 80, and today the cicadas began to sing in the trees like mid-summer. The lettuce in the frames is starting off nicely, but the glass is kept off till the nights threaten to get cold. We were scarce of plants of the Big Boston, and were compelled to use some Grand Rapids and Wonderful. The Grand Rapids we will value for home use, though our market does not care for it. More the pity, for it is a great deal better than the cabbage sorts. What the Wonderful will do as a mid-winter lettuce we are in doubt about. It is fine in spring, but we have never used it before for the mid-winter crop, and are, as the darkies say, "jubous" about it. But as an experiment it will be of value. The big white oaks that adorn our grounds in front of the dwelling make it difficult to grow flowers there in summer, by reason not only of the shade, but the drying of the soil by the mass of roots. But while they are dormant and leafless we can grow the finest of beds of tulips and hyacinths, and have about come to the conclusion to use the beds in summer for the odd looking succulent plants, such as cactus and agaves, and to plant some of them permanently in Yucca Filamentosa, which we can collect by the thousands in the old fields around On one of our streets a gentleman planted a row of Yucca Gloriosa on grass strip between the brick pave nt and the curb, and the plants are ve only lately been in bloom. nother of the so-called Span net trees, Yucca Treculeana, en feet high, and its long, stiff rn off any intrusion. The interesting class of plants re on our dry hills where es other things risky. rounds is gradu lant bamboo, the centre sus. By be no ill will be very attractive. Our native bamboo, Arundinaria Tecta, makes a fine bed on high ground and shows much better than along the ditch banks in the bottoms, where it browns up a great deal in winter. Persimmons are ripe, and therefore the joy of the darkies, the 'possum, is getting fat, for he thrives on persimmons, and the darkey knows where to look for him at night.

Most of the books advise horse stable manure for the garden, and on the heavier soils it doubtless has a more mellowing effect than that from the cow stable. I have a variety of soils in my garden, from sandy to the stiffest red clay. Of course the sandy part, lying to the south, is for my earliest things, and for this soil I use clear cow manure. I buy this from a dairyman on the edge of the city, who sells milk made from purchased food and grows no crops. As he is always short of bedding he throws out the manure clear of straw, and it rots in heaps. Of course there is some loss in this, but it is not my loss, for I never buy the manure till it is fine and rotted. Then it is the very thing needed on my sandy spots and in the cold frames for the soil retains moisture far better than where horse stable manure is used on similar ground, and as I get this fine rotted manure for less than a dollar a ton, it is the cheapest fertilizer I can get. For my stiff soil I always try to get the roughest strawy horse manure that I can find to supplement a similar material from my own stable. I find that there is as much in varying the manure to meet the conditions of the soil as there is in the chemical composition of the fertilizers used.

The Northern people usually have the advantage of us in the fall in the brilliant coloring of the trees. Here they often turn merely brown, with the exception of the tulip trees and the hickories, which get golden yellow. But this fall is an exception, and we are having a wonderful display of autumn color in the forest. Then about our dwellings we have some masses of color which the Northern people cannot match. This is the brilliant orange scarlet of the Crepe myrtle trees. Looking from my window as I write this the brilliant color shows finely against a background of oak forest. We have scarlet oaks in great abundance, but they do not get so brilliant in color as they do further North, around Washington, for instance. Just now the Magnolia Grandiflora (I will not call it Foetida, as the new botanists want us to) shows at its best against the background of fading deciduous trees. In the spring it will look rusty in contrast with the fresh budding deciduous foliage. But now its broad, dark green and glossy leaves studded over with the scarlet fruits is very beautiful. Norway spruce and White Pine are out of place in this climate, and never look happy, and, in fact, are short lived. Quite a number of my old Norways have died this summer, and the only white pine I have is nearing its end. Out in our Western mountains the white pine is at home on the heights, and the hemlock grows to an immense size. The hemlock does fairly well here, but our best conifers are the Japanese Cryptomeria and the Retinisporas and Chinese Biotas. The Northern arbor vitæ is perfectly worthless here. I am saving the seeds of our native persimmons this fall and propose to grow a collection of the best native sorts by budding on these seedlings. Too little has been done with the persimmon, which is one of our best fall fruits, and there are many natural varieties varying greatly in character and season, and they deserve more attention than they have received. Years ago I planted 500 of the Japanese persimmons. They are bearing fruits as large as a big apple and seedless, but in quality our native sorts are far better to my taste. About the same amount of difference between them as between a Ben Davis and a Lady apple.

◆

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Gentlemen:—The Injection Powder for barren animals purchased from you was used on a cow that had been driven to a bull at least ten times without success, until treatment, after which she was only driven once and calved. Also used it on a cow that aborted, and at present she is with calf and apparently all right. Undoubtedly it should be on every dairy farm.

Yours truly, Louis C. Leonard,
Hillhurst Farm, Cos Cob, Conn.

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Stuart's Catarrh Tablets strike at the root of this terrible, odious disease and eradicate it from the system. They are a constitutional remedy that cleanses the system thoroughly of all poisons and purifies the blood. Under their influence the head becomes clear, the discharges at the nose and droppings into the throat cease, the lost sense of smell is restored, the eye brightens, the foul breath becomes pure and sweet and the odious, disgusting disease is thoroughly expelled from the system.

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MUTILATED PAGE

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Hardy Chrysanthemums.

It is a mistaken idea, but a common one, that the beautiful large flowered chrysanthemums will not live out in the North. It often happens that someone starts an idea and others follow on after, never attempting to prove by trial what they have heard, and this is what it is in the case of the chrysanthemum. Without question the old pompone, or small flowered ones, are the hardiest—button flowered as some call them. It is just as true that the large flowered ones can be wintered out doors with no more care than many nice bushes require. This is but to place over them when winter sets in, a handful or two of forest leaves. As soon as the flowering is over the plant proceeds to make growth for next year, and should the weather be fine for a few weeks, often a mass of green foliage appears above the surface of the ground. This is what has to be protected. Loose manure will do, if forest leaves are not available, anything to keep the plant in darkness and to keep severe freezings from the root. About Philadelphia, where zero may be said to be our coldest in winter, though sometimes a few degrees lower may be registered, many of the handsome large flowered sorts may be seen in gardens where they have stood for years, sometimes with no protection at all. Florists' windows are full of chrysanthemums at this season, and anyone securing such plants should plant them out and treat them as described. If preferred, and in some cases it is just as well, set the pots in a cold cellar after the plants have done blooming, planting them out doors in spring. In this case it often happens that a plant can be divided to make a half dozen.

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Horticultural Queries.

Budding Plums.—Will plums grow large enough from seed the first year for budding, or do they have to be budded and grow a year and then be transplanted and budded when two years old? What kind of plums make the best stocks for budding and not be overgrown with the budded tree?

Zionville, N. C. M. W. ELLER.

Seeds of plums do not produce stocks large enough to bud the first year. It takes two years in the way you suggest. Nurserymen use the Myrobolan stock almost altogether. This is a European sort; the seeds are imported. Nearly all large nurserymen here could supply you with the stocks, and some may have the seeds. Formerly another European plum, called the Mirobelle, was used, but it proved unsuitable, making so many suckers.

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Horticultural Notes.

Propagating Clematis. — Clematises may be propagated by layering the young shoots, doing the work in early summer, when the new shoots are of sufficient length. They root nicely in one season.

Walnuts.—The nuts of all kinds of walnuts are best kept in damp soil in a cool cellar and sown in spring. Freezings and thawings in winter are apt to destroy them when out doors in winter. Where winters are mild this does not apply.

Mulching Trees.—Though rarely thought of, trees dry out in winter as well as in summer. Mulching preserves moisture, and the writer has even watered choice shrubs in winter that seemed drying out.

Evergreen Shrub. — For a permanent evergreen shrub in light soil, in a half shady situation, nothing surpasses the rhododendron. The hybrid sorts are beautiful. The wild native sort flowers later than the others.

The Apricot.—It is a pity that a delicious fruit like the apricot is not more often seen in orchards. That it can be grown successfully the orchards of Nebraska, Kansas, California and other States prove. It needs planting on Northern slopes, to retard blooming, and to be well sprayed for curculio.

Currant Cuttings made and planted in early fall and well mulched for winter make good plants by the following fall. If made and planted in August, which it is often practicable to do, rooted plants are had by fall, but these are better left until the next season before being disturbed.

The Clothilde Soupert Rose has now a climbing variety, which is a decided acquisition. It is an everbloomer, sweet scented, and one of the hardiest of its class. It is hardy at Philadelphia.

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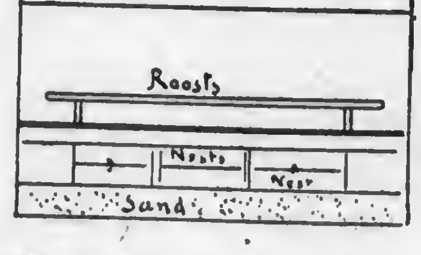
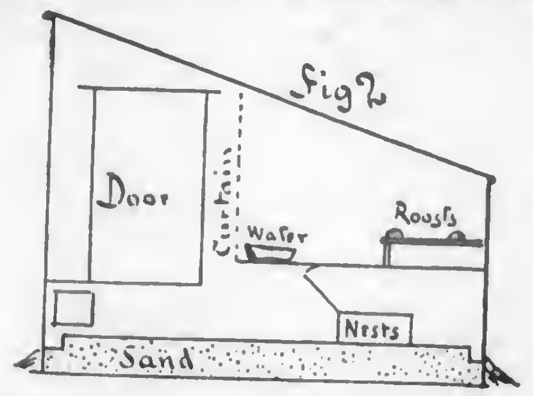
POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Interior Arrangements of Business Poultry Houses.

A recent issue of the Massachusetts Ploughman gives description of a good "business poultry house," or rather of a series of adjoining houses, each of which is 10x8 feet, with a scratching shed 10x10 feet. Fig. 1 shows cross section of a single pen from east to west; Fig. 2, cross section of a single pen from north to south. The interior arrangement is described as follows: The dropping board is 3 feet wide and 18 inches above the level of the top of the sills. Two roosts, each 2x3, are placed on the flat side, fastened together by a cross strip which is hinged to the north wall. Two legs support the roosts on the outer side. The roosts being hinged, they can be lifted up and fastened to the roof so as to leave a clear space when making the daily cleaning. The roosts come short of each pen by about two inches. Three nests are allowed to each pen. These are each 18 inches square, having the ends solid. The nests are placed under the dropping board facing the north wall, rest on the sand, and can be taken out for cleaning. The back of the nest is made in two pieces. The upper part is fastened to the lower board by spring hinges, which enables one, in collecting eggs, to reach the nest conveniently, and the spring hinges make the top board fly back into place. Against the inside division, between the hen houses proper, a 12-inch board extends on the level of the dropping board to within 12 inches of the door, and an upright 12-inch board is fastened to the end of this and runs up to the ceiling. To correspond with it, a board is placed against the opposite wall, and a cotton curtain on a 2-inch roller is fastened to the ceiling. This curtain is shown by the dotted lines across pens in Fig. 2. When this curtain is down it comes to the bottom of the two last-mentioned upright boards, that is to about 2 inches below the level of the dropping board. The purpose of this curtain is to protect the fowls on very cold nights. It may not be necessary to use it when the pens contain over fifteen birds; but if the number is reduced, and the thermometer drops to the neighborhood of zero, it is well to let it down.





The windows in front of the hen houses proper are each 3 feet wide and 2 feet 6 inches high, containing six panes, 10x12 inches each. The windows are placed high in the front wall and slide to the right and left. The windows being placed high up, the sun in winter, when it is low in the heavens, shines on to the roosts and dropping board. The door between the hen houses proper, which is also a foot above the level of the sills, is a simple door of 7x8-inch stuff, the upper half being made of wire netting. The front of each scratching shed is divided in two by the centre studding, on each side of which there are cotton screens hinged at the top, and reaching down to within one foot of the top of the sill; and, when down, close upon top of a rainboard which slopes to the outside, so that rain beating against the cotton screen is carried outside; and this keeps the interior dry. These screens swing up to the roof, and are there caught by hooks from the rafters. The front of each scratching shed is closed with 2-inch mesh wire netting. An eaves trough runs the length of the building, distributing the water east and west. Drinking fountains are placed on the end of the board that runs out from the dropping board; and on the wall opposite thereto the boxes of grit and oyster shells are hung. The interior of the hen houses and the scratching sheds is filled with sand to the level of the top of the sill; and on top of this a plentiful supply of loose straw is kept, to encourage the birds to scratch and thereby get exercise. In August the straw is all cleaned out; and the sand, so far as it appears to be soiled, say, to a depth of 4 or 5 inches, is all taken out, and fresh sand put in its place. No straw is placed on top of the sand until the time comes to close the birds up for the winter. The windows of the hen house proper are open every day. Of course, when the weather is stormy or bitterly cold, they are open only for fifteen minutes or half an hour in the middle of the day. When the sun is shining brightly they may be left open for some hours. This thoroughly ventilates the hen houses, dries up all moisture, and keeps the place clean and sweet. The screen in front of the scratching shed is let down only on very cold days, and when the weather is cold and stormy, so as to keep the open shed dry where the birds take exercise in the open air.

◆

Rape is easily grown—and fine for poultry pasture, too.

Patented Lice Exterminators are not needed. We have plenty of simple things (tobacco, kerosene, insect powder, carbolic acid, etc.) that will accomplish the object, without paying money for useless admixtures.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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are truthfully pictured and their actual working told in about 30 of the 80 pages of our new catalogue. The rest of the book gives information about the chicken business. We begin the story in the egg and end it with the marketing of the fowls. There's knowledge which will benefit anyone and may mean dollars to you. Our incubators are driving hens out of business. They work regardless of weather or of seasons. You can count on hatching every fertile egg. Money back if not all we claim. We pay freight. The book is free. Just say "Send Victor Book" and we'll do it. GEO. ERTEL CO., Quincy, Ill.

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The Practical Farmer.

FOUNDED IN 1855

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PROF. W. F. MASSEY, Editor.

Philadelphia, November 21, 1903

HOARD'S DAIRYMAN says that one man gave as a reason for not taking the paper that he knew all about dairying already and that the paper could teach him nothing. The editor says that such a man, one who knows all about dairying should be an invaluable man on the editorial staff. There are thousands of these "know-it-all" men all over the land. We would like to see a farm paper run by this class of farmers. It would be equal to Puck in the way of amusement. Why do not some of these men who know it all tell some of us poor fellows, who admit that we have a great deal yet to learn, how to farm and raise cattle and do dairying. Why do they hide their light under a bushel? It reminds us of a college professor who once asked a student to define life. The student thought awhile and then said, "I did know, sir, but really I have forgotten." "How sad," said the professor, "the only man who ever knew what life is has forgotten it." And the fact is that the men who think they know all about farming that can be learned, have probably forgotten or never knew as much as the rest of us. Human knowledge is not yet complete in any line of study, and this is particularly true of a business that deals with nature, as that of the farmer does. She lets her secrets out little by little and only to the earnest student and observer, and hides them from the man who thinks he has discovered them all. The fact is that the most unsuccessful farmers, as a rule, are these men who know all about it, and the men who are making the greatest success in farming are the men who read and observe most closely, and who realize that there will always be a great deal more to learn. Brains in agriculture will always beat conceit and ignorance.

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IT costs too much to allow the people of this country to get valuable annuals and other periodicals at reasonable postage rates; the express companies have too much influence to let us have a parcels post through the mails, and yet all the time the plunderers were getting their millions out of the Postoffice Department, while its inefficient head knew nothing about it, and said that the robbery was all "hot air." Now that the report of the investigations of frauds in the department takes millions of words merely to tell of it, and it is claimed that the investigations are complete, the American Review of Reviews says that we have "outlined the main shores of this sea of corruption, and they are well aware that there may yet prove to be some unexplored bays and inlets. They are also aware that they have not altogether sounded the depths of the sea." Now let the punishment of the wrong doers be swift and thorough, and the people will believe in the sincerity of the investigation. It is evi-
at there has been enough stolen
more than given the public all
the way of postal facilities.
ands can send parcels
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t that a citizen
o pay for
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press companies. Let us have a parcels post, and let the farmers tell their Congressmen that they want it, and want the cheap postage on printed matter that they are entitled to. Parcels post is not an experiment, but has been demonstrated to be a success. Only the opposition of the express companies and the indifference of Congress prevent its adoption in the United States.

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Some Common Sense Rules.

Prof. Hopkins, at the Illinois State Institute gave the five following rules for maintaining the fertility of the soil: 1. If the soil is acid or sour apply lime to make it sweet. 2. If the soil is poor in nitrogen only, grow clover or some other legume which has the power to secure nitrogen from the air. 3. If the soil is poor in phosphorous only, apply bone meal or some other form of phosphoric acid. 4. If the soil is poor in potassium only, apply the potash salts. 5. Always save and use all the barnyard manure you have, and also all you can economically obtain from others, and make liberal use of green manures when necessary to maintain the supply of organic matter in the soil. To this last we would add, let the green manure plants get into the condition of dry and dead manure plants before plowing them into the land.

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Buying Fruit Trees.

Thousands in all parts of the country are contemplating the purchase and planting of fruit trees either in the winter or spring. An orchard is a matter for a lifetime so far as the more long-lived trees like the apple are concerned, and it is an important thing to start right. Not only should the location of the orchard and the character and preparation of the soil be of the best, but the trees themselves should be of the varieties best suited to the soil and climate, and, above all, true to name. It is true that the traveling tree agents have been the means of getting fruits planted where none would have been, and where they are the legitimate representatives of first-class nurseries they usually deliver such as are bargained for. It is nevertheless true that buying from agents is an expensive way for getting trees, since even where the agent is a properly accredited salesman for a reliable nursery, he must have advanced prices to pay the extra expense of selling in this way. Then, too, the average buyer is not sufficiently posted in fruits to know when he is dealing with such an agent, and is often the victim of fraudulent salesmen, who pretend to sell most unheard-of trees and plants at exorbitant prices. Hence we always advise dealing with the nursery direct. The responsibility is then directly fixed on the nurseryman, without any intermediary agent, and one can more easily hold him to account. Then, too, there is a tendency with most people to prefer far-fetched things. We knew a landscape gardener once who had a contract for planting some public grounds, and he imported from England all the shrubbery planted, while he could have gotten it in this country fully as good, in better order and for less money, and he knew this, but the board under which he was working had an idea that imported stuff was necessarily better than home grown and the gardener simply humored them and made them pay for it. As a rule, get yearling trees. They are smaller, it is true, but they cost less to buy and less to freight, and they are more certain to live. But the great advantage in buying year-old trees is that you can shape them to suit yourself. They are mere switches with live buds throughout, and can be cut back to any point for starting the head, while the older apple trees have been headed back in the nursery row and have heads started at all sorts of heights, and are hard to get into the best form after planting. Of course little yearling trees need more careful attention in cultivation, and are more apt to be run over by careless hands, but we have always had better results from planting them than with the larger trees. Peach trees, of course, no one plants over a year old, but most people think that a big tree of apple or pear is better than a small one, while the fact is that the reverse is true.

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Specialized vs. Diversified Farming.

We notice in one of our exchanges that some writers contribute articles under this title, seeming to think that specialized farming is necessarily single crop farming, or the growing of one certain crop to the exclusion of all others. Of course this is specialization with a vengeance. But real specialized farming cannot properly be done without diversification. The farmer whose soil and climate are specially suited to the production of a certain money crop should be a specialist with that crop. But he cannot be such, and bring his special crop to its highest production by simply growing that crop year after year on the same land. To specialize properly he must diversify his crops and so arrange the rotation that all his minor crops shall tend to the increased productiveness of his soil in the money crop. If he is a wheat specialist then let him arrange a rotation of crops that will give the wheat crop the most favorable position and will tend to increase the productiveness of his soil in wheat till he can in effect make the subsidiary crops pay for the growing of the wheat and have the wheat as a real surplus money crop. The same will be the proper course with any other money crop. The tobacco growers in some sections are this year in a bad way, and at the mercy of the unscrupulous Tobacco Trust, simply because they have put their sole reliance in tobacco with the expensive use of commercial fertilizers alone, and have neglected the improvement of their land by a proper rotation and the feeding of stock. And such will at times be the case with the growers of any single crop who merely plant and fail to farm well. Cotton, the least exhaustive of all crops on the soil, so far as the cotton itself is concerned, has been made the means of widespread soil depletion through the single crop system and the selling of the seed off the land, for the seed of cotton is the part of the crop that exhausts the land, and should be returned to it in the form of the meal after the oil, which contains no plant food, is taken out. Even in this season of short cotton crops we know of a farm that has been farmed in rotation and has produced a bale and a half per acre, and a bale and a half at the present price of cotton, ten cents and over per pound, means between $75 and $100 per acre, while the single cropper runs on the average or below. And the average is about .33 of a bale per acre, and, of course, to make this average, where many grow a bale or more, some must go far below the .33 of a bale, and .33 of a bale at the present high price will be only $16 to $18 per acre. Specialization of this sort means making the crop for more than its selling price, and such farming of course does not pay, for the man who makes only the average has nothing but the cotton and the seed to depend upon, while the man who farms so well with diversified crops has in the cotton alone a very profitable crop at present prices, and can make a fair margin when the price drops to the point where the average man cannot live. The same is true of other crops as well as cotton, for the real specialist is the man who diversifies in a systematic way and is a farmer instead of a mere planter or sower of crops. Specialization is what every farmer should practice if he is to be successful, and specialization depends on diversification of crops and a proper rotation planned in a systematic way to develop the productiveness of the soil in the money crop.

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The Cream of the Bulletins.

Maine Agricultural Experiment Station, Orono, Me. Bulletin No. 95. Dandelions, Hawkweeds, Ginseng and Canker Worms. By W. M. Munson.

The bulletin opens with the statement that the practice of cutting the dandelions in the lawn in spring for greens is a bad practice, for in addition to the injury caused by the knives and trowels used in digging the plants, every top and crown cut off will in a short time send up in its place from one to six new crowns till the lawn is ruined. Cuts are given showing the appearance of seedling plants and the vigorous growth of those that have been cut for greens. The fall dandelion also grows from root cuttings, but as it is not used for greens it is not spread by the cutting. To prevent these weeds in the lawn the grass should be sown very thickly in the start, for if the ground is not occupied with grass nature will put weeds there to cover it. To remove them from a lawn they must be dug out deeply and a little grass seed sown where the plants were removed. Directions are given for the cultivation of the plant as a salad plant. The hawk weeds are worse than the dandelion. The Orange hawk weed was introduced from Europe, as most of our bad weeds were. It kills all grass about it and is of itself of no use. The only remedy is clean culture in hoed crops. The same treatment is needed for a closely allied plant called the King Devil weed. Ginseng is a native perennial plant found in the forests of Maine, and from Maine west to Minnesota and south to the mountains of Georgia. The present chief sources of supply are Ohio, West Virginia and Minnesota. The usual price for the dried roots is $2.50 to $3.00 per pound. Numerous attempts have been made to cultivate the plant, and where careful attention has been given, the results have been satisfactory. It is a native of cool, moist, shady situations, and soon dies if exposed to full sunshine. It thrives best in moist loamy soils such as are found in oak and maple forests in the North. Mr. George Stanton, of New York, is the pioneer cultivator of ginseng in this country. He has made it profitable. He sows the seed in September in well prepared beds on well drained sandy loam. The bed is covered with leaf mould and brush to prevent drying and cracking of the soil. The seeds germinate in about a year and a half. The seedlings are cultivated for two or three years and are then transplanted to carefully prepared permanent beds treated as the first. The plants are set four to six inches apart each way, and are not again disturbed till harvest time, which will be in four or five years, or six to eight years from the sowing of the seed. Transplanting is done in the fall and the plants are set with the top bud two to three inches below the surface, and no trimming is done to the roots. An open lattice or lath shed is then built over the beds. The lath roof may be made in sections so that it can be removed and stored in winter. In general it is better to buy the plants than to attempt to grow them from seed. But no one should be deceived by the glowing accounts of possible fabulous returns from the enterprise. The present high prices are said to be maintained by a syndicate of Korean merchants who control the native product. The demand is only limited by the exorbitant price, and with an increased supply and consequent reduction in price will come an increased demand for the roots. The Experiment Station would not encourage ginseng culture in Maine. We hope this will serve as an answer to the flood of queries about ginseng. A description is given of the canker worms, and the surest preventive is stated to be a band of tarred paper around the trunk in March and smeared with printer's ink to prevent the female from climbing to deposit eggs. Rough bark should be smoothed before applying the band so that the insects cannot crawl under it. Renew the ink to prevent its getting smooth and hard. The surest way is to spray with Paris green or arsenate of lead. Paris green one pound, lime 6 pounds, and water 100 gallons, or arsenate of lead 6 pounds and water 100 gallons.

MUTILATED PAGE

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THE FARMER CO.,
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CONTENTS

AGRICULTURAL.—Rotation Will Help Make Eastern Farming More Profitable.—Healthful Heating and Ventilation with Stoves. 321
The Drinking Water Supply. 322
QUERIES.—Street Sweepings. 322
Lawn in Colorado. — Making a Meadow in N. C. — Rotation for Maryland.—Phosphoric Acid, Lime and Clover. 323
VETERINARY. — Stomach Staggers.—Hard Milker.—Difficult Parturition.—Fungoid Growth. — Garget.—Capped Knee.—Worms.—Lameness. Ear Canker.—Impaction. 324
Verminous Bronchitis. — Cribbing and Wind Sucking.—Knee Striking.—Weak Foals.—Enlarged Hock.—Chronic Cough.—Polyuria. 325
GARDEN.—Notes from a Carolina Garden. 326
HORTICULTURAL.—Hardy Chrysanthemums. — Horticultural Queries.—Budding Plums. — Horticultural Notes. 327
POULTRY.—Interior Arrangements of Business Poultry Houses. 327
EDITORIAL. — Some Common Sense Rules. — Buying Fruit Trees.—Specialized vs. Diversified Farming. 328
CREAM OF THE BULLETINS. 328
COMMMERCIAL. 329
HOME CIRCLE.—Editorial Chat.—The Horse.—Our Shut-Ins. 330
Raising Damson Plums.—Christmas Drawer.—Youth's Parliament. 331
OUR EXPERIENCE POOL.—Topic No. 599.—How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat for Home Use? 332-33
FARM IMPLEMENT ANNEX. — Short Singletree in Orchard Work.—Handy Narrow Hoe. — Knife for Cutting Harness Leather.—Shocking Horse.—Device to Hold Shocks While Husking.—Buying Farm Machinery.—Tools for Winter Use. — Snow Plow.—Stone Boat Construction.—Wire Tightener. 334
SHORT CUTS BY P. F. SUBS.—Handy Device for Feeding Pigs.—Preserving Pumpkins.—Fighting the Fly Pest. — Cooling Milk. — To Save Washing.—To Save Cloth, Time, etc.—Stopping Gullies. — Vinegar for Money.—Surprise Corn Sheller.—Hints on Papering.—Plant Cover.—To Keep Glass Fruit Jars.—Driving Posts in Dry Weather. 335
POSTAL CARD CORRESPONDENCE. 336

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Ladies' World, New York City.....	1.40	1.15
McClure's Magazine, New York City	2.00	1.70
Munsey's Magazine, New York City	2.00	1.75
Poultry Success	1.50	1.15
Success, New York City..........	2.00	1.65
Woman's Home Companion.......	2.00	1.50

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COMMERCIAL

PHILADELPHIA MARKET REVIEW.

November 14, 1903.

Wheat was lower under lower cable advices, with an indifferent export demand and bearish speculation in the West. The corn market was steady, however, under light offerings, but there was very little demand from either exporters or local jobbers. Offerings of oats were liberal and the market was weak under a light local trade demand. Receipts of live poultry were only moderate, but offerings were mostly of unattractive stock and the market was dull. Strictly choice stock brought outside prices. There was a good demand for desirable lots of both dressed fowls and chickens, and the market ruled firm, with supplies closely sold up. Most of the receipts were of medium grades. Turkeys were in good demand and firm under light offerings. Strictly fine creamery butter was in light receipt, and all offerings of this description were readily cleaned up at firm prices. Most of the receipts were of more or less defective goods, which were quiet and had to be sold at relatively low prices. Imitation and ladle-packed were in ample supply. Fine new laid eggs were scarce and wanted at firm prices. Most of the supply consisted of mixed held and fresh stock, and prices on these goods had to be shaded to buyers' ideas of value. Refrigerator eggs were moving out quite freely. The demand for New York full cream cheese continues quiet, with liberal offerings at former rates. Domestic Swiss cheese was in ample supply and dull. Demand was good for both white and sweet potatoes and the market ruled firm under moderate supplies. Onions were steady under light receipt and a fair demand. Cabbages were scarce and higher. There was very little demand for dried beans and the market was weak under free offerings. Cotton was higher under strong reports from other home markets. Feed was lower.

WHEAT.—

No. 2, red, spot and Nov....	81	@	81¼
No. 2, Penna. and Del.......	82	@	82¼
No. 3, red	76	@	76¼

CORN.—

No. 2, red, spot	48	@	48¼
No. 2, yellow	53		
No. 3	46	@	46¼

OATS.—

No. 2, white natural	41	@	41½
No. 2, white clipped.......	42	@	42½

LIVE POULTRY.—

Fowls, hens, per lb........	11	@	12
Roosters, per lb.	8		
Spring chickens, per lb.....	10½	@	11½
Ducks, per lb.	11	@	12
Turkeys, per lb.	12	@	14

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.......	12		
Fowls, average, per lb.	11	@	11½
Old roosters, per lb.	9½	@	10
Chickens, nearby, per lb....	13	@	14
Illinois, d. p., fancy, lb...	13½		
Western, d. p., fancy, lb..	13		
Spring turkeys, fancy, lb..	17	@	18

BUTTER.—

West. cream'y 1sts to extra	21	@	22½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	23	@	24
Prints, Western	19	@	23
Imitation creamery	16	@	18

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	30		
Western 1sts, free cases..L	28	@	28½
No. West., 1sts, free cases, L	29		
So. West., 1sts, free cases, L	26	@	27
So. choice, free cases....L	24	@	25
Refrigerator, firsts ......M	21½	@	22

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—

Choice and fancy	11¾	@	12
Fair to good	11	@	11½
State, part skims, prime ...	8½	@	10
Domestic Swiss, No. 1......	12	@	13
Domestic Swiss, No. 2......	10	@	11

GREEN FRUITS.—

Oranges, Fla., bright, box..	2.25	@	2.75
Oranges, Fla., russets, box.	2.00	@	2.50
Grapes—			
N. Y. Concord, 4-lb. bas..	15	@	16
N. Y. Concord, per 100 lbs.	2.25	@	2.50
N. Y. Catawba, 4-lb. bas..	13	@	16
Niagara, 4-lb. bas.......	19	@	20
Cranberries—			
Cape Cod, large late, bbl.	7.50	@	8.50
Cape Cod, early Bl., bbl..	7.00	@	7.50
Cape Cod, early Bl., crate	2.50	@	2.75

APPLES AND PEARS.—

Apples—			
N. Y. Snow, per bbl.....	3.00	@	3.50
Kings, per bbl.	2.50	@	3.50
Pippins, per bbl.	1.75	@	2.50
Greenings, per bbl.	1.75	@	2.25
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl..	2.25	@	2.75
Pears—			
N. Y. Kiefer, per bbl.....	1.75	@	2.50
N. Y. Seckel, per bbl.....	6.00	@	8.00
Howell, per bbl.	3.50	@	4.00
Duchess, per bbl.	3.50	@	4.00
Sheldon, per bbl.	4.00	@	4.50

POTATOES.—

White, Pa., choice, per bu..	65	@	68
White, N. Y., choice, per bu.	60	@	65
Fair to good	55	@	58
Sweets, Jersey, prime, bas..	30	@	40
Sweets, seconds, per bas...	10	@	15

VEGETABLES.—

Onions, Western, per bu....	60	@	65
Cabbage, N. Y., per ton....	15.00	@	17.00
Cauliflower, L. I., per bbl...	1.50	@	2.50
Cucumbers, Fla., per bbl...	2.00	@	2.50
Eggplants, Fla., ½-bbl. crate	3.00	@	4.00

BEANS AND PEAS.—

Beans, mar., H. P., 1903, bu.	2.70	@	2.85
do mediums, H.P., 1903..	2.20		
Pea beans, H. P., 1903, bu..	2.10		
Imported pea beans, per bu.	1.85	@	1.90

COTTON.—

Cotton, per 100 lbs.	11.20		

FEED.—

Bran, bulk, winter, per ton.	19.00	@	19.50
Bran, sacked, spring.......	19.00	@	19.50

HAY AND STRAW.—

Timothy, No. 1, large......	16.00		
Timothy, No. 1, small......	15.50		
Timothy, mixed...........	12.50	@	14.00
Clover, No. 1	12.00	@	12.50
Straw, straight rye	19.50	@	21.00
Oat	10.50	@	12.00
Wheat	10.50	@	12.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle active for best grades.

Best steers	5	@	5⅜
Good steers	4¾	@	5
Medium steers	4¼	@	4½
Common steers	3¾	@	4

Veal calves active.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

Hogs active.

Fat hogs, Pa., Del. & Md...	6	@	7
Fat hogs, Western	7½	@	7¾

Sheep and lambs active on best grades.

Sheep, extra	4	@	4¼
Sheep, good	3½	@	3¾
Sheep, medium	3	@	3¼
Sheep, common	2	@	2½
Lambs	4	@	5¾

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NEW YORK MARKET REVIEW.

November 14, 1903.

Wheat ruled irregular, advancing early but declining later. The trading was very dull. Corn was dull, the close being barely steady with the demand light. Oats closed weak, but there was a fair demand. Hay and straw was steady at former prices. Hops were quiet. Butter was generally quiet. Receipts were moderate, but with accumulations were ample for requirements. Current made goods are very irregular in quality. Conditions in the cheese market are unchanged, trade being confined to actual requirements. The continued scarcity of choice quality of eggs tends to keep the market on a firm basis. Medium and undergrades are steady. Prime live chickens and fowls are promptly cleaned up. Dressed prime poultry is in demand at advancing prices. Average offerings are irregular. Apples are firm. Cranberries are firm, with sales of selected stock at outside figures. Pears are scarce and firm. Grapes unchanged. A large percentage of the arrivals of fresh vegetables is poor in quality, which has a tendency to depress the market, but prime quality commands a good price. Irish potatoes are very firm and prime grades are moving freely. Sweet potatoes are firmer. Marrow beans are very firm and are not in sufficient quantity to meet the demand.

WHEAT.—

No. 2, red	84		
No. 1, No. Duluth, f. o. b..	85¾		

CORN.—

No. 2, yellow	50⅞		
No. 2, white	49⅞		

OATS.—

No. 2	42		
Standard white	42		
No. 2, mixed	40½	@	41

HAY AND STRAW.—

Timothy, new, per cwt.....	90	@	92½
Timothy, No. 1	87½	@	90
Clover	55	@	65
Straw, long rye, per cwt...	95	@	1.05

HOPS.—

New York State, 1903, lb..	24	@	32
Pacific Coast, 1903, per lb..	21	@	29
German, 1903, per lb......	55	@	65

BUTTER.—

Extra creamery	22½		
West. extra factory	15		
State dairy	15	@	20
Packing stock	12½	@	14
Imitation	15	@	18

CHEESE.—

State, f. c., small, fancy....	11¼	@	11¾
Good to prime	10¼	@	10½
Large colored, fancy	11	@	11¾
Light skims	7½	@	9
Full skims	1½	@	2

EGGS.—

QUOTATIONS AT MARK.

Nearby fancy, selected.....	35	@	38
State & Pa., fancy	30	@	31
State & Pa., seconds	26	@	29
Western extras	28	@	29
Refrigerator	17	@	22½

LIVE POULTRY.—

Chickens, per lb.	11		
Fowls, per lb.	10	@	11
Roosters, per lb.	7		
Turkeys, per lb.	13	@	14
Ducks, West., per pair.....	60	@	75
Geese, West., per pair	1.25	@	1.37

DRESSED POULTRY.—

Turkeys, spring, d. p., lb...	12	@	16
Scalded, per lb.	12	@	15
Old, mixed, per lb.......	16	@	17
Broilers—			
Phila., fancy, large, lb...	20	@	22
Phila., mixed sizes, per lb.	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	10½	@	11
West., d. p., av. best, lb..	11		
Chickens, Phila. fancy, lb..	16	@	17
State and Pa., fancy, lb..	14	@	15
State and Pa., poor, lb...	8	@	10
Spring ducks, Eastern, lb..	16	@	17
Western, per lb.........	14	@	15
Inferior, per lb.........	8	@	11
Spring geese, Eastern, lb...	17	@	18
Squabs, per doz.	1.75	@	3.25

APPLES AND PEARS.—

Apples—			
Ben Davis, per bbl......	2.00	@	2.75
Spitzenberg, per bbl.	2.00	@	4.00
King, per bbl.	2.00	@	3.75
Greening, per bbl.	1.50	@	2.50
Tallman Sweet, per bbl..	1.50	@	2.00
York Imperial, per bbl...	2.00	@	3.00
Hubbardston, per bbl....	1.75	@	2.50
Pears—			
Common, per bbl.	1.50	@	2.50
Bartlett, per bbl........	3.00	@	6.50
Buerre d'Anjou, per bbl..	2.00	@	3.50
Seckel, per bbl.	4.00	@	8.00

GREEN FRUIT.—

Grapes—			
N. Y., Niagara, 4-lb. bas..	12	@	20
N. Y. Concord, 4-lb. bas..	12	@	16
N. Y. Catawba, 4-lb. bas..	14	@	16
N. Y. Salem, per 4-lb. bas.	12	@	13
Up-river, crate, Concord..	75	@	1.00
Wine grapes, black, ton....	50.00	@	55.00
Quinces, per bbl.	3.00	@	6.00
Cranberries—			
Cape Cod, bbl.	7.00	@	8.50
Cape Cod, crate	2.25	@	2.35
New Jersey, bbl.	6.50	@	7.00
New Jersey, crate	2.00	@	2.25

POTATOES.—

L. I., per bbl.	1.75	@	2.25
Jersey, per bbl.	1.62	@	2.00
N. Y. and Maine, per bag...	1.75	@	2.25
Sweet potatoes, Jer., per bbl.	1.50	@	3.00
Southern, per bbl........	75	@	1.12

VEGETABLES.—

Brussels sprouts, per qt....	6	@	10
Carrots, per bbl.	75	@	1.25
Cabbage, domestic, per ton..	9.00	@	12.00
Tomatoes, Jer., per crate..	50	@	1.00
String beans, Va., per bas..	1.00	@	3.50
Squash, Hubbard, per bbl...	1.00	@	1.25
Cucumbers, per bbl........	1.00	@	4.00
Cucumbers, Fla., per bas...	1.50	@	2.50
Cauliflower, per bbl........	75	@	2.50
Celery, per doz...........	10	@	40
Eggplants, per box........	2.00	@	3.50
Lettuce, Boston, per doz....	35	@	75
Lima beans, potato, per bag	1.50	@	2.50
Onions, white, per bbl......	2.00	@	5.00
Red, per 150 lbs.........	1.50	@	2.00
Yellow, per bbl.	1.25	@	2.25
Peas, Norfolk, per basket...	1.00	@	2.50
Pumpkins, per bbl.........	50	@	1.00
Parsnips, per bbl..........	1.00	@	1.25
Spinach, per bbl.	75	@	1.00
Turnips, per bbl.	75	@	1.00

BEANS AND PEAS.—

Beans—			
Marrow, 1903, choice, bu.	2.95		
Medium, 1903, choice, bu.	2.17	@	2.20
Pea, 1903, choice, per bu.	2.10	@	2.12
Lima, California	2.25		
Green Peas—			
Scotch, 1903, bags, per bu.	1.27	@	1.30

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WOOL PRICES.

[From COATES BROS.]

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XX and above..................	32@34
X	29@30
Medium	31@33
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UNWASHED (light and bright.)

Fine	22@24
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Coarse	21@22

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Washed fine Delaine	34@36
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Washed coarse	29@31
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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Some of our friends are calling for more chat. We are always glad to respond, only it seems to us that what others say is much more interesting and helpful than anything we can offer. And then when a story is running we feel that we are consuming all the space that can be spared us. Speaking of the story, we want to thank each reader personally who has written of his or her appreciation of it. But one sister says: "Your story had lots in it, yet I must say I doubt if men, after a few years of married life, ever think about their wives loving them, any more than they do if their mothers and sisters love them—unless their wives are flirts and keep them on the gridiron of jealousy."

What think you, brothers and sisters of the H. C., is she right? If you will pardon a personal allusion we will say that at the close of twenty-five years of married life our husband is as much the lover as at the beginning and we know that our affection for each other has strengthened with the years. And we believe that among our acquaintance this is the rule in a majority of cases, and we are inclined to the belief that men think more about these things than we give them credit for, although there are plenty of cold, indifferent husbands even among couples regarded as happily married.

Maybe if the husband does get to regarding his wife as he does any other relative, it is her fault in part. Perhaps she don't try to please him as she used to. We are not a devotee of the "rose-in-the hair," "smile-in the face" theory, under all circumstances, but we do believe that a man never gets too old or too slack in his own dress not to notice whether his wife looks "sweet" or not.

Every woman who has a father, husband, brother or son has someone whom it will pay her to try to look pretty for.

We know we have told you before, but we are going to repeat it, of the little country lad who, when sent to the postoffice, remarked naively to the dainty postmistress:

"I wish my mother had time to comb her hair and fix up every day like you do."

There he sat astride his saddleless horse, tow headed, barefooted and unkempt, but he had the man's inborn admiration for a well-groomed woman. Husbands are sort of matter-of-fact creatures mostly, we admit, and we suppose the sister is right in a way.

To illustrate this, when we "scold" our John for reading when we want him to talk, adding petulantly: "Before we were married you were glad to talk all the time," he says:

"Well when a man is trying to catch a street car, he has no time to read the newspaper; he just has to run for it, but when once he has caught it, he settles comfortably back, pulls out his paper and goes to reading." See the point?

* * * * * * * *

Our John is away from home all the time now, which perhaps makes it easier to believe all sorts of good things of him, since they say "Absence makes the heart grow fonder." (As if it could.)

Well we want to interest our readers a little bit in the work he is doing. Some of you who live in the East are familiar with Home and Farm Schools. One of these, "Good Will Farm," is at East Fairfield, Me.; another in Westchester Co., N. Y., the "Brace Memorial Farm School;" another, the "George Junior Republic," at Freeville, N. Y.; another, the "Pearson Farm School," at Walpole, Me., and there are others. In the West, however, we only know of one fully established, the Allendale, at Lake Villa, Illinois. And now, through the efforts of a philanthropic gentleman and wife from the East, one is just "planted" on Wisconsin soil. It is situated at Delafield, on Lower Nemahbin Lake, temporarily, but plans are being perfected as rapidly as may be for the purchase of a farm and the founding of a permanent home. The object is to save boys. (A worthy one surely.) From a multitude of reasons boys go wrong, sometimes even those in their own homes and where there are fathers and mothers. Especially is this true in cities. To provide a home, in the highest sense of the word, in the country, and teach industry, atriotism and good citizenship is the avowed obj of these institutions. Our Delafield H is just finishing the first month of its e An incorporated association of persons are backing it. At he superintendent—who for er as well—the matron limited number of larger quarters use consists le room room, kitchen, store room, boys' small dormitory, matron's room, assistant's room and one room done in white and furnished for emergencies, like illness or extra company. A few yards distant is the school room. There is a half-mile of lake front. The furnishings throughout are new and pretty, giving the whole a cozy, home-like appearance—just the surroundings to make a boy want to be good and manly. Of course, if an inmate prove himself disagreeable and disobedient after fair trial, he is sent back to where he came from, or recommended for the Reform School.

Only boys who prove themselves worth saving are finally kept. It is such a wonderfully good chance for a lad, especially a homeless, friendless one. We would like to tell you more about this work, but will wait now until—well another time. But we are now going to "pass the hat," by saying that books for the library they are trying to start will be a most acceptable gift from anyone who loves boys and has the future good of our country at heart. It would seem as if almost every home into which the P. F. goes might contribute one good boy's book to this enterprise. Send direct to the Home and Farm School, Delafield, Wis. The little fellows range in age from six to sixteen years, the majority, however, from ten to fourteen. A copy of "Ben Hur" is one that we have heard wished for. Only send what you can afford to pay postage on; the association cannot meet the expense of transportation. The gift of a helpful book is sometimes more far-reaching for good than a sermon, or, in fact, anything else, so if you want to make the world better you have your chance. Better an empty place on the book case shelf than an empty life or a boy gone wrong.

* * * * * * * *

We confess to a dislike for wash day, and anything that will lessen its labors and make it more like the other days of the week, appeals to a tender spot. Hence our advocacy of washing machines which are washing machines, and particularly of the "1900 Washer." These machines are in hundreds of Home Circle kitchens, and we wish that every P. F. family had one. They are real labor savers, as much entitled to a place in the kitchen as the reaper, mower or other labor-saver in the field. We wish that every farmer who reads this Department would see that the good wife has a "1900" among her kitchen furniture. Write to the 1900 Washer Co., 23 D, State St., Binghamton, N. Y., for particulars of a free trial of this washer to every Practical Farmer subscriber.

And now to do the fair thing by the sterner sex, we speak a good word for the Marvin Smith Co., 55--59 N. Jefferson St., Chicago. They make or deal in about every kind of useful thing that finds a place on the farm or in the barn. Write them for catalogue and note the immense variety as well as the low prices of the goods they sell. Every farmer who reads The Practical Farmer ought to have a copy of this catalogue as a matter of business economy. While we are speaking this word to the men folks, the other side of the house will also be interested, as this company deals in almost all household goods.

The Horse.

B. M. C.

The Creator gave to man dominion over the fowls of the air, the beasts of the field and the fishes of the sea. The horse is the most noble of all the domestic animals. I wish to point out one way of getting his good will, from a colt up, and thereby getting the best control over him. Commence giving him equal quantities of sugar and salt mixed together, and let him eat it out of your hand. This is the best way to treat the colt in the start. Do it in the most quiet and friendly manner until he gets used to being handled. It is not necessary to give him some every day—once a week is often enough. He will soon learn who is his best friend and you can catch him anywhere or at any time. He will learn the sound of your voice, even when he does not see you. I know this by observation in handling horses of various temperaments and at various times and occasions, and I find that comparatively few men know of these facts. Try it, my friends, and you will find that your horses will readily come to you in the field, and they will smell of your hands the first things.

Our Shut-ins.

Since our Shut-in department seems to touch a responsive chord in so many hearts we are glad to have letters from both "our girls" today, as well as some responses to our boy's query in regard to the plating business. The gist of the latter is: Stick to your notion trade. No encouraging experience is given as regards the venture he proposes making.

* * * * * * * *

Willie Jane Sheppard, Wedowee, Alabama, writes: Dear Mrs. Melville: I am sending you under a separate cover some cotton bolls, two closed and one open, also some leaves and a square, which, you see, makes a bloom, then a boll. The closed bolls you may put on your hearth near the fire and watch them open; not too near, but near enough to keep it real warm. I know the leaves will be completely dead, for the frost has already killed them. We had a killing frost yesterday morning, and it killed everything green and left my father in despair, for now that our crop is cut short we can't pay our ration bill. Our corn, which is late bottom, is also killed and fit for nothing but hogs. It will colic horses to death, for it is full of milk, which will sour. We shall have to suffer this winter, and it makes me nervous to think of it. What makes it worse, we are going to move a mile further into the woods and away from Wedowee, where there is no road. I shall be very lonely; all the pleasure I have to look forward to is the occasional letter or paper that the H. C. friends may send me. We have five months here of snow and cold. Thanking you all for your kindness, I close.

[We appreciate the cotton bolls very much, sister. Thank you. We trust the winter before you may be worse in anticipation than realization. Certainly the last year has brought much sunshine into your life; trust God and the good H. C. for more.—Ed.]

* * * * * * * *

Ellen Kinney, Brockport, N. Y., writes in more cheerful vein: "I was terribly downcast at one time, but so many pleasant things have happened of late, and I want to thank the H. C. friends who have, by their gifts of money, made it possible for me to have comfortable clothing against the coming winter. I had been praying, and I think the money and other presents came in direct answer. How much comfort you bring into my life you can never know."

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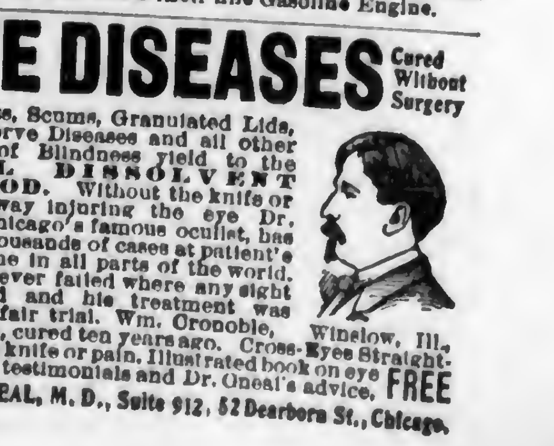
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MUTILATED PAGE

Raising Damson Plums.

A. A. GARRISON.

We do not know why this plum was called Damson, but they are a delicious fruit. I want to tell the P. F. how to raise them as we do. First select a small plat in the rear yard or poultry yard, where good ordinary land is; no heavy shade overhead. Sand or clay will do, sand preferred. Second, get six or eight German Damsons. I think they are called Coply plums. Get six or eight American Damsons, or blue plums. Heel them out on this plat, eight feet each way. Be sure to never plow in or near them. Scrape the surface clean of weeds and grass once a year, if no fruit, twice if fruit, leaving a young sprout every four feet; cut off other sprouts with grass. Trim up to four or five feet so you can hoe and see under clearly; then you have no rotting plums. I would recommend some of the German plums if they can be had, as they bloom later. We have the German one year and American next year.

Uncas, N. C.

Christmas Drawer.

AUNT BETTA.

Many have found the envelope cases for clippings very handy, but have also found that they tear very easily and so become useless. The following plan will be found very satisfactory: Select white envelopes of the size desired, and steam them over a kettle to open the seams. Have ready a piece of fine white lawn or cambric. Cover the inside of the paper envelopes with smooth paste and press them carefully on the cloth. Place a piece of blotting paper over the envelope and roll with a rolling pin to insure good results. When dry cut the cloth to fit the envelopes and fold as before, having the cloth on the outside of the envelopes. With a little paste or mucilage fasten the flaps in place but do not put any on the one that is left open. With diamond gold paint put on the front of each envelope the word denoting its contents, as "Poems," "Recitations," "Fun," etc. Paint the word on the flap also. Procure a box of the exact size to hold the envelopes, when put in edgewise, with the flap up. Of course the box must allow for the thickness of the envelopes when filled with clippings. Cover the box with some of the white lawn and paint on the cover with the diamond gold paint, the words: "Gleanings from literary fields." If a box of the desired size cannot be found, it can be cut from pasteboard, covered with the cloth and overhanded together. It may be lined with some pretty color. The cover for envelopes and box may be of some pretty color instead of white, if preferred. In this case the diamond silver paint may harmonize better than the gold. A pink case with silver lettering would be very pretty. When placed in the case the envelope flaps are allowed to remain open, thus furnishing an index to the contents without being obliged to pull the envelopes out to read the name on the face. They are more satisfactory in a case than when tied together. The white set is very dainty, but the colored ones will remain clean longer.

Youth's Parliament.

Dear Band of Mercy Members, you know we almost never copy anything for our H. C., but this little story is so sweet and helpful that we feel we must pass it on to our children, hoping it may influence someone to be a "deavorer," too. If only we were all "deavorers" of the sort this child was, what a world this would be. We recommend the older folks to read it, too—and profit by it.

AN APPLE MISSION.

One day, upon answering a gentle ring at my door bell, I found a sweet little girl, five or six years old, waiting to see me. A tiny white handkerchief was folded across her shoulders and down to a point at the waist. On her left arm hung a red and black calico stocking bag. A quaint, curious little figure she was. Her errand was as singular as her appearance.

"Will you let me mend stockings for you this morning, ma'am, or mittens? I will mend for five cents an hour, and I can mend torably well, dranma says."

I drew her into the sitting room, gave her a small chair by the fire, and said, "Now, my dear, why do you want to mend stockings for me?"

Without appearing to heed my question, she gravely drew from her bag a gray stocking with a nicely mended heel.

"Here," she said, "is a hole I mended for dranma yesterday. Proerbly you would like a zample."

I praised the neatly darned "hole" and repeated my question. She smiled, and said brightly, "Oh, yes, dranma said I should have to 'splain to you 'bout my 'siety betause you might not know all about it. You see there's ten of them, and they're very tired at night, and apples rest them. You know horses like apples dretful much. Every horse has to have an apple, and sometimes they're so tired they have to have two, and that's manyer than dranma's dot, and so I have to mend things and get some money. Dranma said I must tell people all about it. Do you un'stan'?"

I assured her that I was very sorry for the tired horses, and that she should mend for me an hour a day for a long time. At this the demure little mouth broke into lively smiles as she said, "Oh, dood, dood!" and began at once to open her bag and hunt for a thimble and needle, while I went to find her some work. She said little as she worked, but gave such attention as would bring great skill to many a grown mender. Once she stopped her work a moment, and said, speaking slowly, "Oh, one day I didn't know what I sood do I didn't have one apple left, not one for dranma. I save a soft one for her, she's dood, dranma's very dood. You see one of the men whipped his horse, and so I had to give him an apple, too; I gave him dranma's apple, and then he didn't whip his horse no more. I was sorry for dranma; but she didn't care any when I 'splained to her; she dest give me a love pat."

"A love pat! What's that?" I inquired.

"Oh, don't you know? It's dest a soft, dentle, little pat on your cheek. I like love pats. Hain't you dot any little dirl?"

"Not now, my dear. God took my little girl away to Heaven when she was about as old as you are."

"Did he? Then perhaps he dave to my mamma. Dod's dot my mamma, too."

Something made me bend down and kiss her sweet cheek. She looked up quickly and said, "If my mamma's dot your little dirl, then I must tome and mend for you musn't I? I tould bring my things and stay, only I tan't leave dranma, tourse."

She looked up at me with sweet blue-gray eyes, clear and pure as the sky, eyes whose light shone in upon and brightened the deep shadow of my own loss.

"And what will you do in summer, little one, when there are no apples? Will you give each horse a lump of sugar?"

"Tan I? Oh, of tourse, horses would like that. Yes, that's dest what I'll do."

"How came you to have your 'siety, as you call it?"

"Well, you know, the minister said I must be a little 'deavorer, and help people; and so I found the horses. Some of them draw toal all day, and then they're dest dretful tired; and I know I ought to help them, tause they touldn't talk and tell anybody."

When the mending was finished—very neatly, too, for the work of such small hands—she put away needle and thimble very seriously, and went home "to see 'bout dranma."

After a few days I hunted up my little friend's home, which proved to be scarcely a square away. For a few rods the road approached the house by a steep incline. I was fortunate in the time of my visit. "Dranma" was going to have a load of coal, a little too heavy a load, evidently, for the horse. About midway up the hill the heavy wheels seemed to settle down to stay, and the horse after some patient tugging seemed to become discouraged. At length, in the midst of whipping and scolding, the tiny little figure of my stocking mender appeared by the roadside. She seemed to have by instinct the tact of an accomplished strategist and the kindness of an angel. Soon she said with a smile, "It's pretty hard work to drive a toal team, ain't it?" The driver glanced down annoyed, but the sight of her small figure and sweet face made his features relax a little at once.

Perceiving her slight advantage, she said immediately, "I think I sood try a love pat."

The man broke into a laugh, and said, "That's so chick. How'll I do it?"

"Pat his neck very softly with your hand, very softly, and I'll dive him this apple; then he'll proerbly pull better," she replied, and stepped at once in front of the horse, and reached up to him a fine red apple. The driver doubled up with laughter for a moment, and then actually patted the neck of the horse gently and lovingly, while the poor beast munched his apple.

"Now I dess if the load ain't too big he can pull it," said she. Surely he could and did.

Maybe you're tired, too, and would like an apple," I heard the child's voice say as they reached the last step of the incline, and she offered the man a small apple, not so fine a one as she had to the horse.

"I b'lleve I would, my beauty. Thank ye; ye're a trump. I won't hit the old hoss again today, blamed if I will."

I rose from my seat under a tree, where I had retired to be out of the way, and to witness the proceedings. Below me was a long shed connected with a railway station. Here, no doubt, my little "deavorer" found her tired horses at evening waiting for whatever business the last train might bring them.

As one would suppose, I found my call at the little home very pleasant. "Dranma" was an unusual old lady, most kind, simple and sagacious. The child, always called "Dolly, dear," showed me treasures of dolls of varied colors, materials and names. With all her sweet graces of kindness and wonderful wisdom, she was full of all the simple gayety of a child, perhaps fuller of it because of those graces. I congratulated myself on having found such a little friend, and all Christian Endeavor workers on having such a co-laborer. When we can, in so childlike and trusting a spirit, work together with God, men will bear and forbear.

Hatching the Early Bird. — In the matter of incubators they have been brought to a point where they actually beat the hen at her own game. Manufacturers have closely studied the natural laws of incubation, and followed them minutely. In the machines made by George H. Stahl, of Quincy, Ill., known as the Excelsior and the "Wooden Hen," every problem of heat, moisture and ventilation has been solved, and it is said they will hatch a greater percentage of hatchable eggs than the mother hen herself under ordinary conditions. Five minutes' daily attention when in operation is all they require. Everyone interested in poultry should write George H. Stahl, Quincy, Ill., for his free catalogue of incubators and poultry appliances. It is worth having. Mention the P. F. when you write for it.

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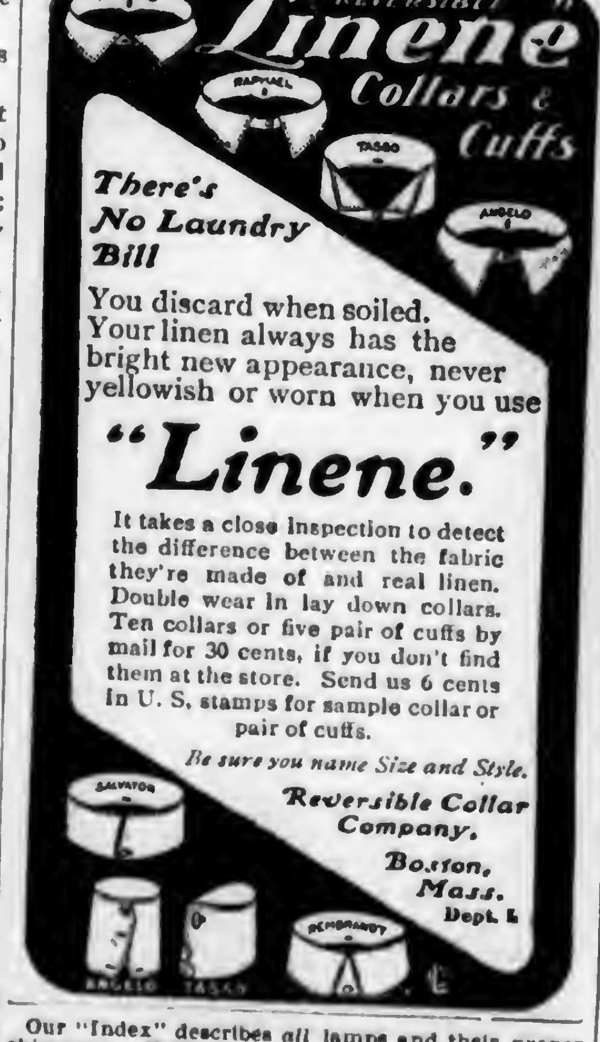

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Sparkill Rockland Co. N.Y.
Oct 22 1901

Sparkill, Rockland Co., N. Y.

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Write at once for catalog and full particulars to

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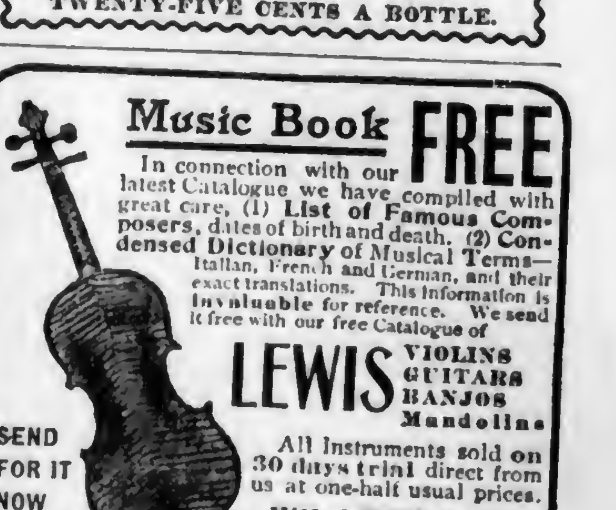
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Topic No. 601, Dec. 5.—*Have You Tried an Ice House with Cold Storage Room? If so, Tell How You Built it.*

Topic No. 602, Dec. 12.—*Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?*

Topic No. 603, Dec. 19.—*Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26.—*How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 605, Jan. 2.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 599.—How do You Feed Your Hogs, What Breed do You Prefer and How do You Slaughter and Cure the Meat For Home Use?

E. Hunt, R 2, Stanton, Mich.—I begin feeding the sow before their birth plenty of good bone and muscle-making food, such as skimmilk and middlings, and very little corn. When the pigs come I continue the same food to the mother, and the pigs soon learn to eat, and are weaned at 7 to 8 weeks old, and put in a clover pasture. Not that I expect them to live on pasture alone, but give some grain food in addition. I find it pays to feed liberally three times a day from start to finish. Canada peas are excellent before corn is ripe, and the pigs will harvest them if in an enclosed lot. When the peas are gone they are given all the corn in the ear that they will eat up clean three times a day, with plenty of skimmilk or sour milk or clean water in the absence of these. Have long since abolished the abomination known as the swill barrel. I prefer Poland Chinas, but any standard breed is good if cared for. I slaughter by shooting in the head with a rifle, and stick them as soon as they fall. Let the carcass get entirely cold. Then cut the head off first, split through the centre of the backbone, take out the spare ribs, and do not cut them too spare. Cut off the hams and shoulders, and the sides into strips four inches wide. Use the trimmings for fresh meat and sausage. Use clean oak barrels and rock salt. Sprinkle the bottom of the barrel with salt, then a layer of the strips of meat edgewise, with the rind next the barrel. Cover with salt one-fourth to half an inch deep, and then another layer till the barrel is full. Put on more salt and then add brine to cover. Put on a loose cover and weight it down. As the salt dissolves and settles add more salt so that there is always undissolved salt on top. Hams and shoulders can be cured with the side meat, but are better in this way. For 100 pounds of meat use 8 pounds salt, 2 ounces saltpetre, 2 pounds sugar, 1 ounce potash and 4 gallons of water. Boil and skim, and when cold pour on the meat, after it is tightly packed in the barrel so that it is covered by the brine. In 4 to 6 weeks take out and dry a day or two and smoke if you prefer, but we do not smoke. Soda will answer in place of potash. [Better not use either.—ED.]

C. J. Moore, R 2, Morrisville, Vt.—Most people here merely keep a few hogs to eat the refuse and skimmilk, with a little grain to finish. Chester White has been the favorite breed, but we prefer the Berkshires, as they can be fitted for market with less food and in a little while. We slaughter at the village slaughter house in November, and have them dressed for 50 cents each. The lean meat is frozen and packed for winter use. This we do by putting a half barrel in a barrel, and fill the space between with grain, cover the top with sacks to keep the air out. Packed in this way it will keep through the longest thaw, when it may be frozen over again. The hams are salted and smoked in spring. The fat meat, after taking off a belly piece for lard, is cut in 4-inch strips from back to belly and packed edgewise in a large stone jar, with rock salt between each layer, and covered with brine, adding more salt than will dissolve, and always keeping the meat under the brine. We thus have [illegible] meat the year through.

[illegible] West Rush, N. Y.—Our hogs are [illegible] through summer almost entirely on [illegible] a little meal added, if we run low [illegible]. In the fall we feed corn, rye and [illegible] together, for about two months. [illegible] we let hang in an out-[illegible] night, cut up and leave on shelves [illegible] 24 hours or more. Pack the [illegible] in strong brine, using 50 pounds of [illegible] pounds of meat. Hams are packed [illegible] made of half a pound of saltpetre, [illegible] of brown sugar, 10 pounds of salt, [illegible] enough to cover the meat.

[illegible] Clover Orchard, N. C.—[illegible] to grind the grain for hogs and [illegible]. We use a lot of turnips [illegible] cooked for them. I pre-[illegible] Chester White. I shoot [illegible]; dress and drain [illegible] while warm, in [illegible]. Let it lie [illegible] of borax [illegible] and dry. When dry, pack sides down in salt and joints in a box with corn cobs between, and you have meat worth eating the year around. [It would be far more wholesome and digestible with the borax left out, and the meat cold before salting.—ED.]

T. A. Shuff, New Berlin, Ill.—I always give a good range in a blue grass or clover pasture, where a trough is filled daily with milk from the creamery. A little milk is reserved to mix with oats and corn meal for a morning meal. They also have corn on the cob daily and plenty of water, good and fresh. The most common breed here is the Poland China, but I prefer the Chester White. The quality of the meat depends more on the feed than the breed. To slaughter six hogs for family use I would kill three the middle of December and three a month later, to save waste and have fresh meat longer. I kill in the afternoon of a clear, frosty day. Dress, split and place the halves on clean boards in a shed, so that they will cool but not freeze. Cut and trim the next morning. Rub the joints and as many sides as are wished for bacon with salt, and pack in layers in a barrel or hogshead. Hang and smoke in four to six weeks. Some use hickory chips and corn cobs, but I have found nothing better than clean sawdust. After smoking a few days prepare a kettle of so-called liquid smoke and immerse. When drained, hang in a dry, tight room away from light and flies. If this is done here by the first of March there will be no danger of skippered meat. If delayed till later it is best to rub with molasses and pepper, and cover with paper sacks. Sides for pickled pork should be put in brine the day after the killing, and after a few days changed into pork barrels and thoroughly weighted.

C. W. Beam, Loyd, N. C.—We raise a few hogs for family use and for tenants, and 50 to 75 pigs to sell to neighbors who do not care to bother with brood sows. We stick to the Berkshires. We have a grass lot with stream through it and peach and apple orchard adjacent to turn hogs in when wanted, quite a lot of refuse melons, cane heads in season, a little oats, green corn, etc., and now they are ready to pen, and two months corn feeding is about the only expense item we can count in our hog raising. We are sowing crimson clover for spring as an experiment. After killing we let lie in salt till February 1st, and then clean by scraping with a dull knife, and wipe dry. Then apply one tablespoonful of powdered borax to each piece of meat, when we rebox it or let it remain in open shelves, as no flies will go on to it. [And it is all the harder to digest by reason of the borax.—ED.]

B. P. Wagner, La Belle, Mo.—We feed our hogs when young for bone and muscle. When grown, commence to fatten and keep it up till ready to slaughter. We prefer the Poland Chinas. Feed nothing for 12 hours before killing, and then shoot them, which is quicker and better than knocking in the head. [We never did either, but simply threw them on their backs and stuck them.—ED.] After scraping they are hung and dressed. Cut up when well cooled. Spread on clean boards in meat house and never pile. Cover with plenty of salt and let lie a day or two. Then pack away in salt. When salt has taken well take out and hang and smoke with good chips, preferably hickory. Then take down and apply pepper, wrap up and put away.

Orlu Kinyon, Chaumont, N. Y.—Wean the pigs at five weeks and begin by feeding dog flour. Let them run at large if there is nothing they will destroy, or have a large lot for them. Hogs weighing 150 to 175 pounds are the best size to sell, as after that they will cost more than they will gain. To sell alive I feed only on dog flour (?) and whey or water. To butcher for home use I feed for two weeks on corn meal. I generally keep from 30 to 40 hogs in this way. I prefer the Chester White. Crossed with Berkshire they make a good breed. In slaughtering, the hog is stuck, scalded, cleaned and dressed after hanging. Cut up when cold and pack in clean barrels the broadside meat, leaving the bone meat on top to be used first. Pack in plenty of rock salt with each layer of meat, and then pour over all a warm brine. Soak the hams and shoulders over night in clear water, or they may be fried fresh and packed in lard till ready for use. Kill from December to February. The hams should be kept in brine for a week and then washed in clear water over night and smoked.

W. W. Jones, Oneida, Kan.—I keep my hogs on grass from April till December. The best pasture is alfalfa. But if one does not have this, rye, sown in the fall and rape in spring, or oats or cane will all be relished. But to do their best they must have some grain. I prefer corn, balanced with wheat shorts and skimmilk. I prefer a hog that will give about 14 pigs at a litter, and which can be made into a 200-pound hog at six or seven months old, or can be run longer on grass and put on the market at one year old weighing 350 to 400 pounds. The Duroc Jersey is the hog that will do this. In killing I think the most humane way is to stun him with a rifle ball and then bleed him to death before he recovers consciousness.

J. M. Lancaster, Beatrice, Neb.—Breeding sows have liberty on alfalfa pasture, rape or rye, according to season, and are fed sparingly on corn, but given a thick slop of bran, shorts and a little oil meal twice daily. If pasture is short in the fall feed pumpkins and roots and some choice third or fourth crop alfalfa, wet up a little. Give pigs a mixture of wood ashes and salt with a little lime and sulphur. The Duroc Jersey is in the lead here. Nine hundred were shown at the State Fair, the largest show of this breed ever gotten together. They are the best grazers, give the largest litters, and resist disease better than others. Butcher, and when cool, pack in brine that will float an egg, after adding saltpetre, N. O. sugar and pearl ash. Let remain till salt enough and smoke with green hickory. As we had none this year we used corn cobs and liquid smoke and never had better meat. Many dry salt but I have found it too risky.

Jas. D. Harvey, Kearney, Md.—I feed my hogs skimmilk and bran, and let them run on the grass in an orchard till within 6 or 8 weeks of killing time. Then feed all the corn they will eat clean on a sod. Never pen them, nor feed in the dirt. I slaughter by shooting, and scald and clean as soon as dead. Wait till the animal heat is out, but do not let the meat freeze. Then pack in a barrel as tight as I can conveniently, make a weak brine and pour over and let stand three days. Then draw off the brine and take about three pounds of brown sugar, one-fourth pound of saltpetre to 300 pounds of meat. Mix it with dry salt and then take two buckets, putting about two quarts in one bucket, dip the other full of water. If the salt is fine hold waist high; if coarse, as high as your chin. Pour into the one containing the salt. Pour this off on the meat and repeat till the meat is covered and then weight it and leave till ready to smoke, which is February or March with us. Hang up and when drained, smoke with hickory chips off and on for three or four weeks. When cured, some damp morning pepper it with black pepper and pulverized borax, and hang in a dark, cool place. I formerly sacked the meat, but it always moulded some. As to breed, I like a cross between Poland China and Berkshire. I have ten pigs seven weeks old which tip the scales at an average of 49 pounds.

A. E. Page, McPherson, Ark.—Poland Chinas have been my favorites for years, as they are quick growers, mature early and are gentle and prolific mothers. Feed varies, but always enough to make them grow. Corn is good, but in scarce times I have grown and fattened herds on rye made into a thick slop, and if shorts can be had I mix that with the rye. Ground barley is also good. An acre or more is always seeded to green foods when hogs are shut up. When out on the range and mast is plenty I feed enough corn twice a day to keep up a steady growth and fatten as desired. In more Northern latitude my pasture was a mixture of wheat, barley, clover and whatever was quick and tender in growth. In the Southwest, fall wheat sown early is excellent, or oats or rape or all together. My shut-in brood sows always have baskets of purslane, crab grass, pig weed, cabbage, turnips, sweet corn and other garden waste in their pens daily, with dairy waste and clean water. They have dry houses with dry floors and litter in sleeping rooms, with V-shaped troughs enough for all. In a cold section I used a steam cooker and could raise winter pigs with nearly as much profit as summer ones. I fed clover hay and silage, dry corn and cooked ground feed and vegetables. I make the pigs weigh 250 to 300 pounds at 10 months old, and sell to shippers. My family supply of side pork is salt pickled, hams and shoulders sugar cured and smoked with hickory chips or cobs. To save from annoyance from flies it is all sliced as for table use, lightly fried, closely packed in jars and covered with fat and put in cool place to be warmed and eaten.

A. G. Higgins, Belwood, N. C.—We turn hogs on clover in spring and feed wheat bran slop enough to keep them growing till fruit comes in to take the place of clover. Continue the wheat bran and meal slop till fall and then pen and feed sweet potatoes and pumpkins and finish with corn, giving them all they will eat clean twice a day. We prefer the Berkshire. Our hogs average from 225 to 300 pounds. Slaughter in the afternoon. After pork is cut let it cool over night. Salt in a box, and let it remain four to six weeks. Wash hams and shoulders in cool, clean water and hang to dry. While moist sprinkle a liberal supply of black pepper over all joints. In a few days examine closely to see that there are no bugs or worms about. Then put some clean straw in the bottom of a dry box. Pack meat in with a layer of straw between each piece and cover the last pieces well with straw. We always find ready sale for our bacon kept in this way, and have regular customers who will have no other so long as they can get ours.

G. H. Townsend, West Byrne, N. Y.—We keep one hog for each cow kept. Cows are fresh from June to September, and we have milk all the year. Butter is made and the skimmilk fed fresh from the separator. We have the litters come in August, and winter over, keeping in growing condition by feeding wheat middlings, ground oats and peas with the milk, and have abundant pasture of clover in summer. We prefer the Chester whites. They are about 15 months old when marketed, and dress from three to five hundred pounds. Then you have good side pork and large enough hams and shoulders for most people. Some breeds are all ham and no side meat, and this does not make the ideal killing hog. They are killed at the approach of cold weather, and what is sold is taken at once to market as soon as cold, in the whole carcass. For family use the sides and boneless pieces are packed in large meat tanks in strong brine, being packed in layers as solid as possible and weighted to keep under brine. Sausage is made and packed and smoked in cloth casings. For hams and shoulders we mix 7 pounds salt, 4 pounds brown sugar, 2 ounces saltpetre, 4 ounces soda and 6 gallons of water. Bring to scalding point and throw directly on the meat. This for 100 pounds of meat, and let remain in the brine for six weeks, and then smoked. In the spring hams are sliced and warmed and put into crocks, covered with warm lard.

G. W. Stickley, Strasburg, Va.—I begin feeding gradually and increase until I get the amount they will eat clean, and keep an appetite for the next meal. Also all the water they will drink. I prefer the Yorkshires. I lay the meat on a shelf in the meat house to cool and after a few days salt it on the shelf, putting on enough to go through well. After lying on the shelf from three to six weeks I dust it over with pulverized borax and rub it into every crevice and hang up and I am never bothered with skippers.

E. W. Abbott, Ross Corner, Me.—I do not keep many hogs. I fence a lot on a piece of land to be plowed. I add milk with the clover with a little corn and middlings or bran, and feed apples and pumpkins as soon as they are ripe; also small potatoes and other things that would go to waste. Am feeding sugar beets now. Feed breeding animals almost entirely on milk and beets. I prefer the Chester Whites. Kill when they will dress 150 to 200 pounds. Put the meat when cool into a barrel and fill it with water and let soak 24 hours. Take out and put an inch of salt in bottom of a barrel and then a layer of pork packed closely. Cover with salt and then another layer of meat till all is in. Never use anything but salt. Sometimes I light-salt the hams and shoulders and smoke them, sometimes at home and sometimes at a smoke house.

Hugh Barker, Centralia, Ill.—First I want pigs from registered parents. 2nd. Always have a good pasture. For 50 head 10 acres of woods and 20 acres of clover divided into four lots, so as to change them often. Do not ring them, for with woods pasture they will not root the clover. 3rd. For growing pigs I sometimes feed oats, oats and bran, oats and ship stuff, oats and corn. Oats and corn are ground together, and both are cooked when corn is fed. Every feed is mixed with clear water. No hog of mine gets slops or swill. A lump of rock salt is in each lot or pen, plenty of charcoal and stock roots or cooked pumpkin or cabbage. When I fatten I give warm mash in the morning, corn at noon and stock peas, cooked, at night, a good place to sleep in and plenty of clear, fresh water all the time. At killing time they are shot with a rifle and stuck at once. The kettle is on a level with the floor, and two men can handle a 400 or 500-pound hog. If heavier, a block and tackle are needed. Have a pulley to raise hogs on after scraping; need no spreader. Hang on hooks till cool, cut up and after twenty-four hours salt for six weeks, unless frozen. In which case run a thin-bladed knife at intervals into the meat and see if it has taken salt. When salt enough, wash clean with three or four waters. Rub with dry cloths, and then with black and cayenne pepper. Hang in curing room and smoke with green hickory. After two days rub with dark brown sugar on the fleshy side, and on the skin side with lard, which makes the skin soft and glossy. Rub with the sugar every 36 hours and you will have meat equal to anything a packing house can put up. [How many 36 hours our friend does not say, and in our part of the world hams cured on the farms are far better than any packing house hams and sell for a great deal higher price, packing house hams now being about 16 to 17 cents at retail and Virginia and North Carolina hams 20 to 25 cents per pound.—ED.] The jowls are cured the same way except the sugar. Sausage is stuffed in long cloth bags and smoked with the meat. Meat treated in this way finds a ready sale at an advanced price to private customers.

A. E. Bills, Richland City, Wis.—I raise Poland China hogs. The first care is the sow. I feed her nothing until the pigs are 48 hours old and then sparingly. I feed slops of shorts and ground rye, and after the pigs are eight or ten days old a little corn and increase the slops. When the pigs are three or four weeks old I begin to feed them. Have a pen where they can run in and out and the older ones cannot. I feed slop of rye. Milk is better, but do not give more than they will eat clean. Then I teach them to eat shelled corn, and feed the sow all she will eat clean of slops and some corn. When the pigs are six to eight months old they will weigh 200 to 250 pounds. I butcher in the morning and salt in the evening. Never let them freeze. If it is warm weather I butcher in the evening and salt in the morning. I never lose any pork, nor have any get strong. I pack the pork in large stone jars, cutting it in small pieces and sprinkling salt on the bottom. Rub each piece with salt and pack close. Put salt thick between each layer till the jar is full and then cover with salt. I keep it in the cellar.

J. S. Barb, R 1, Spokane, O.—Feeding hogs for fattening I do not care to feed corn only, but mix it with rye and oats, one bushel of rye to two each of corn and oats, and grind fine. I let the hogs have their drink first and then mix the chop just damp enough to moisten it. When I feed corn I like to feed an hour or so before letting them drink. Bran and middlings make a good feed mixed with corn and oats chop. Do not feed too much corn to brood sows, either before or after farrowing. I have no bother with their eating their pigs. I like a cross between the Chester White and Poland China. Berkshire and Chester White make a good cross, or are good by themselves. I like to have the drink warm in winter, whether it be milk or water. We salt the meat after it is cool. Sometimes we sugar-cure the hams and shoulders. In cold weather it is well to have some meat unsalted and let it freeze, as it will keep a long time then.

Lyman Morrison, R 1, Sparta, Ill.—I feed my hogs all they will eat clean three times a day, and at fattening time pen them and feed corn morning and evening and ship stuff at noon, with free access to nut coal and salt. My stock hogs run on pasture, and have ship stuff mixed with milk and water. I have no use for dish water. I find the O. I. C. the best breed. I shoot the hogs with a 22-calibre rifle, two at a time. They are hung up, opened and left to cool three or four hours, and are then cut and laid on shelves in the smoke house till next day. When thoroughly cold, pack in barrels, and make brine strong enough to float an egg, and cover the meat and let stand 14 days. Take out and hang up for a week before smoking. After smoking, dust well with powdered borax, put in paper sacks and hang till ready to use.

Mrs. J. B. Luce, Cherry Creek, N. Y.—We let our hogs run in an orchard pasture and give plenty of skimmilk till six months old, and then feed them all the corn or corn meal and bran they can digest. Slaughter in the old way of sticking, having not tried shooting, though I believe that it is a good and humane way. We prefer the Chester White and O. I. C. We let them hang till well cooled. Then cut up. Pack the hams and shoulders in brine by themselves. Leave them in the brine for two weeks, and hang in the cellar. If for home use we omit smoking, and use them at once or slice and pack in stone jars. They may be fried or not before packing, but must be well covered with lard, and if not cooked must be perfectly dry. The sides we cut into strips 5 or 6 inches wide, and pack tightly in stone pork jars, with layer of salt on bottom and between each layer of meat, and cover with brine. Of if there is any old pork brine we scald and skim it well, and when cold pour it over the meat, adding some water if necessary. Can the tenderloin, but use the heart, tongue, liver, ribs and legs fresh.

J. J. Haas, Holly, Mich.—Have sows farrow in March or April, and give them middling slop and a little corn, with turnips or beets. Wean pigs at six weeks. Feed milk, middlings, grass and clover, and have a patch of rape in orchard as soon as ground can be worked. Turn pigs on it when 4 to 5 inches tall; they will not eat it well if too old. September 1st commence giving cooked beans once a day, about a pint to a pig, and in October begin to feed corn. This should make hogs of 200 to 250 pounds by November, dressed. Prefer Berkshire or a cross of them with Poland China. Kill by shooting, as more humane. Do not have the water too hot so as to set the hair. Wood ashes in the water will help. Cut up when cold. Make a brine of rock salt that will hold up a potato. Put in a little saltpetre. Rub each piece well with the dry salt. Pack closely in meat crock and cover with brine. Let remain in two weeks for bacon, and hams and shoulders four weeks. Smoke and hang in paper sacks for the bacon, and slice and fry the hams and shoulders and pack in crocks and cover with hot fat. The brine on pork should be drained off April 1st. Put on the fire and just before it boils, skim well. Let it boil and put back on the meat when cold, and during summer add salt occasionally.

J. B. Crookston, Hammondsport, N. Y.—I prefer Chester White. Wean at eight weeks and kill at a year to 15 months old. Run on grass and feed wheat shorts and bran mixed. Kill in morning and cut up in afternoon. Cut side in four pieces and hang in cellar till cold. Put salt in bottom of barrel and pack closely and fill all crevices with salt till barrel is full. In two days put on the brine, and weight to keep meat under it. Use fine barrel salt. Put on enough brine, and every few days through the year add more salt, not to make the meat more salt, but to keep the brine good. When hams and shoulders are cold pack in barrel after rubbing salt on them. Make a brine with all the salt the water will dissolve and add half a gallon of molasses or 8 pounds sugar to the hams and shoulders of three hogs. Let them stay in this brine six weeks. Hang and drain and then smoke with hickory wood or corn cobs. Molasses rubbed on the hams and sprinkled with black pepper will keep off flies. Leave in smoke house till spring, and then pack in barrels and cover with salt, and keep in cool, dark place. For sausage I take the cheek pieces, inside of the shoulders and the leanish scraps of meat trimmed off. I use 55 pounds of meat, one pound of salt, half a pound of sugar, 5 ounces of pepper, and sage to taste. Mix well, sprinkle the seasoning on the meat, cut fine, and then mix in a bowl of wheat flour. Pack in pans, bags or links as you choose. In pans, cover with lard, slice the sirloin, after removing the fat, pack in jars and cover with lard. For head cheese cut from top of head, jaw bones, etc., cook till done, season, chop and pack.

SUMMARY.

We are glad to have a full discussion of this important topic. In fact, we have had to leave out the papers of quite a number of our friends, and have endeavored to admit those mainly from new names. The papers show quite a variety of ideas, especially in regard to the curing of the meat. In regard to breeds, we would say that good results can be had from any of the pure breeds, and it is a bad practice to cross pure breeds. The use of a pure bred male to bring up the quality of common stock is all right, but when you have full blooded males and females stick to the breed and do not make a mixture by crossing with other pure breeds, for no good results can come from it. Now in regard to the curing of the meat. A very little saltpetre is admissible in order to give the desirable reddish tint to the meat. But borax, while it doubtless helps to preserve the meat, makes it harder to digest and of poorer flavor. Salt is the only curative agent that should be used. Sugar and pepper also to give flavor, though they add nothing to the keeping of the meat. I have tried dry salting, but have had better success with pickling. Most of our friends, we think, keep in salt too long and thus make the meat too salt and hard. We let all the animal heat escape, and the carcass get quite stiff before cutting, for it cannot be cut and trimmed right if warm and soft. The thin pieces and side meat are put in separate barrels from the hams and shoulders, but all are pickled alike. We make a brine strong enough to pop a potato, and fill the barrels. In three days pour it off, and boil and skim, adding a pint of black molasses and one ounce of saltpetre to each 100 pounds of meat. When the brine is clear and cold pour it over the meat again, adding more brine if needed. See that all the meat is under the brine. In two weeks it will be ready to smoke, and we smoke everything but the back bones and the spare ribs, most of which will have been eaten in the meantime. Some people have gotten into a notion that smoking is not needed, but in our opinion unsmoked ham and bacon is merely salt pork, and not bacon or ham at all. Then, too, we want genuine smoke and no substitute in the shape of creosote. The best smoke is corn cobs smothered down with green cedar brush. Smoke in cloudy weather at intervals for three weeks or more till well darkened by the smoke. Then take it down and make a mixture of black molasses and black pepper in a thick paste and smear the meat sides of the hams and shoulders. Wrap in heavy brown paper, put into cotton bags and dip these in whitewash, and hang up in a perfectly dark meat house, hock ends down. The hams will be at their best the following fall and winter. Some of our friends talk of slicing the hams and frying them and packing down in lard. This may do for those who care only for fried meat. But it is ruin to a ham to treat it in any such way. Keep the hams whole, and when a year old take one and let it simmer for four hours in a pot, but never boil hard. Take it out and peel off the skin. Cover the fat with granulated sugar, and put it into the oven and bake thoroughly. Then you have a ham that is fit for the best farmer in the country to eat, and one that Delmonico cannot beat, though he bastes it with wine. Fried ham is indigestible at best, and eating all one's ham fried is something we could not relish at all. Hams cured and smoked as we have suggested are selling now for 25 cents a pound, and some farmers get that at wholesale for their entire curing. Packing house hams are not in it at all. As to breed we prefer the Berkshires as being more hardy and prolific than the Poland Chinas. No white hog can compete with the black breeds in the South. In slaughtering, the shooting with a rifle is probably better, though we have never tried it.

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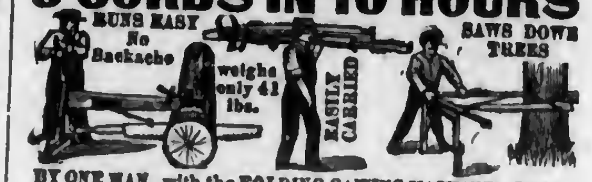

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BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocketknife. Saws any kind of timber on any kind of ground. One man can saw MORE timber with it than 2 men in any other way, and do it EASIER. 239,000 in use. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address FOLDING SAWING MACHINE CO., 55-57-59 No. Jefferson St., CHICAGO, ILL.

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Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
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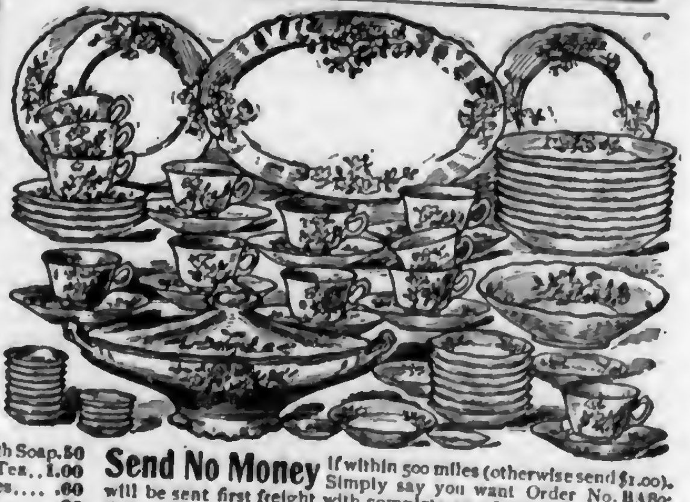

FREE!
This complete full-size 64-piece Dinner Set, decorated in a handsome floral design of 8 colors and beautifully embellished with gold band on each piece, given free with this Grocery Order amounting to $10.99. This set is high quality semi-porcelain chinaware and consists of the following pieces:
12 large Dinner Plates, 12 Cups with handles, 12 Saucers, 1 Covered Vegetable Dish (2 pieces), 12 Butter Dishes, 12 Fruit Dishes, 1 Salad or Vegetable Dish, 1 large Meat Platter. The GREATEST OFFER EVER MADE BY A RELIABLE MAIL-ORDER HOUSE.
The following order of Groceries with dishes free only $10.99:
1 full size 64-piece Decorated Dinner or Tea Set FREE.

20 lbs. best Granulated Sugar	.49	10 lg. bars Electric Bath Soap	.50
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10 lbs. California Prunes	.59	2 lbs. Best Raisins	.20
10 lbs. Java & Mocha Coffee	2.50	2 lbs. Best Currants	.20
2 1-lb. cans Best Baking Pow.	.50	2 lbs. Best Cocoanut	.40
8 oz. Pure Vanilla Extract	.55	4 large bars Scouring Soap	.22
8 oz. Pure Lemon Extract	.45		
25 large bars Laundry Soap	1.00	Total	$10.99

Send No Money if within 500 miles (otherwise send $1.00). Simply say you want Order No. BA89; will be sent first freight with complete set of dishes for examination. If as represented and satisfactory, pay agent $10.99 and charges. If not, refuse goods.
GUARANTEED—Every item in this order is the freshest and best groceries. The dishes are highest grade semi-porcelain chinaware, gilded and decorated under the glazing. We have 100 other premiums free with good staple groceries. Write for free catalog.
Reference: Fort Dearborn Nat. Bank. RANDOLPH MERCANTILE CO., 18-22 Michigan Ave., Chicago.

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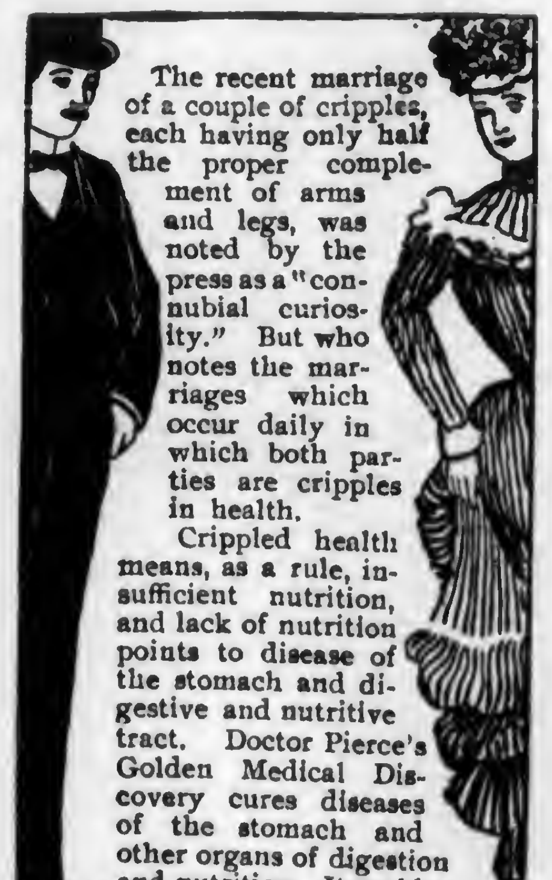

The recent marriage of a couple of cripples, each having only half the proper complement of arms and legs, was noted by the press as a "connubial curiosity." But who notes the marriages which occur daily in which both parties are cripples in health.
Crippled health means, as a rule, insufficient nutrition, and lack of nutrition points to disease of the stomach and digestive and nutritive tract. Doctor Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It enables the perfect nourishment of the body, and so builds it up in sound health and strength.
"I had been a great sufferer from indigestion for the last nine years," writes Mrs. Margaret Stingle, of Owings Mills, Baltimore Co., Md. "I was such a wreck it seemed death was near, but to-day can say I feel like another woman. I have received much and lasting good from Dr. Pierce's Golden Medical Discovery and 'Favorite Pescription.' I have taken twenty-five bottles in all, and followed the advice of Dr. R. V. Pierce, and am happy to say that life is worth living now. A thousand thanks for your treatment."
Do not be cajoled into trading a substance for a shadow. Any substitute offered as "just as good" as "Golden Medical Discovery" is a shadow of that medicine. There are cures behind every claim made for the "Discovery."
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Triple Geared Ball Bearing
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for all kinds of grain. Has largest capacity and runs the easiest. Try it before you send your money. Send for circulars.
G. M. DITTO, Box 55, Joliet, Ill.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Clover Seed Wanted. Send sample and price. CLYMER FLETCHER, Clearville, Pa.

For Sale. 13 acres, 10 miles from Cincinnati, near traction and railroad; no buildings; good location; $1,000. W. F. KENNEDY, Blue Ash, Ohio.

For Sale or Exchange. Single comb white Leghorns. Pure Van Dreser strain, not in-bred. Bargains before going into winter quarters. E. A. ANDREWS, Granville Center, Pa.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Thoroughbred Cockerels, April hatch, fine stock of White Wyandotte, Rose Comb Rhode Island Red, Barred Rocks, Rose Comb Brown Leghorn for sale or exchange. W. SHOOK, McGaheysville, Va.

For Sale or Exchange. One thousand Single Comb White Leghorns, Wyckoff & Blanchard strain. Beautiful, early hatched cockerels and pullets, strictly thoroughbred. C. N. REYNOLDS, Canton, Pa.

Farm for Sale. Why go west to suffer from droughts, blizzards and cyclones. You can buy 114 acres, 75 cleared, improvements, in Southern Maryland, fine climate, extra conveniently located as to railroad, schools, stores, &c. Well wooded and watered. Has many advantages hard to duplicate. $800, easy terms. F. W. HUTCHINS, 127 N. 11th St. Philadelphia, Pa.

If You Want Fruit farm or a tract of orchard land, well located, on the Blue Ridge mountain, near railroad. Or a small farm with orchard and dwelling. Also a large belt of saw timber. Virginia is full of opportunities for the investor. Mild climate, good water, best of fruit, the place for a man of small means or health seekers. Describe what you want. Address W. S. RODES, Afton, Va.

Farm for Sale. 75 acres, ½ mile from a thrifty growing town with railroad and water facilities. 9-room dwelling. Fine shade and good water. Apple orchard 50 trees, peach orchard 200 trees. Pears, plums, chestnuts, grapes, filberts, etc. Especially adapted to truck and berries. Constantly running stream of water 250 yards from barn. Could be made an ideal fish pond. Price $3,000. Easy payments. SILAS SPARKLIN, Federalsburg, Md.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

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REFERENCES:—Cleveland-Cliffs Iron Co., Cleveland; Peoples Savings Bank, Detroit; Colonial Trust Co., New York.

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Ear and Shelled Corn, Oats, Rye, Etc. to a medium degree of fineness for feeding purposes.
CRUSHER ROLL crushes the ears and at the end of crusher we place either fine or coarse grinding plates. FINE PLATES are for ear corn, shelled corn, oats, rye and other small grains, where a good medium degree of feed is wanted.
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Don't Buy a Grinder of any kind until you get our catalogue
COARSE PLATES are for ear or shelled corn where coarse chop feed is wanted and for CRUSHING EAR CORN to prepare it for a French buhr or any other mill not having a crusher. Crushes 25 bus. an hour. Can be run with 1 to 15 horse power or power windmill. Strong and durable—made of steel and iron. Hopper holds full sack of corn. Latest thing out and revolutionizes ear corn crushing and grinding.
CUT THIS AD OUT and send it to us and we will mail you free our Special Farm Machinery Catalogue. It illustrates and describes 44 styles and sizes of grinders suited to all uses.
Marvin Smith Co., 55-58 N. Jefferson St., Chicago.

Farm Implement Annex

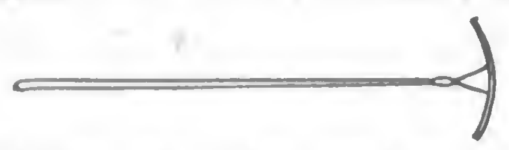
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Short Singletree in Orchard Work.—I find the short singletree of great advantage in doing the various kinds of work that I have to do in my orchard. It must be made as short as possible, just so the horse can work with ease. We use it in pulling a one-horse sled with bed, on which we haul manure and mulch to the orchard. And again in the fall the same sled can be used for gathering the fallen fruit. The short singletree is also used for cultivating in the orchard, as we can work up close to the trees without danger of barking them.

Longmont, Col. G. A. KLAIBER.

Handy Narrow Hoe.—To make a very handy narrow garden hoe to be used in hoeing plant beds and small vegetables, also for digging potatoes when we only want a few at a time, take the short spring leaf of a broken spring seat and have your blacksmith attach an ordinary hoe handle. He can work shoulders on two small rods and rivet them into the bolt holes in the spring, then into the handle, as shown in cut. P. ATOR.

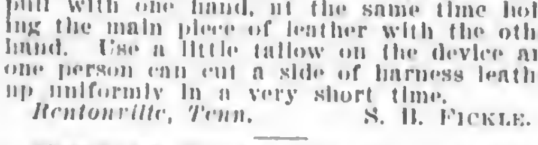


Lipan, Texas.

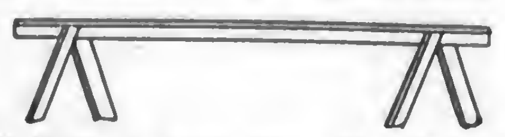
Knife for Cutting Harness Leather.—I have seen a complete device for cutting harness leather, which is something that farmers sometimes have occasion to do. It is an ordinary wooden gauge with a piece of shoe knife set in the end of the piece in an upright position, the piece being supplied with inch marks, and with a hand hold on the main piece like the butt of a pistol. You set it as you do when gauging lumber. First get one edge of your leather straight, then start the knife with straight side of leather resting against main piece of gauge. Now pull with one hand, at the same time holding the main piece of leather with the other hand. Use a little tallow on the device and one person can cut a side of harness leather up uniformly in a very short time.

Bentonville, Tenn. S. B. FICKLE.

Shocking Horse.—The following is an account of a shocking jack for shocking fodder that is cut with a knife. A pole about 16 feet long and 4 inches in diameter at the large end is used. Near the large end place a pair of legs some 3½ feet long. Five feet from this end bore a hole to slip in a cross stick, which should be about 6 feet long, and small enough to pass through the 1½-inch hole easily. The corn fodder is set in the angle made by this stick and the pole. When shock is completed, the stick is withdrawn and the pole withdrawn. It is especially useful when the wind blows hard, and if the shocks are well tied they can be loaded entire if so desired.



Device to Hold Shocks While Husking.—Two benches are made of 1x6 fencing or any other material that you may have handy. It is made 6 or 8 feet long and has legs about 18 inches high. There are two of these benches; they are placed the proper distance apart and about one-half of a shock is laid on them at one time. If so desired, boards can be placed across the benches and the huskers can sit, one at each end.



Nora, Wis. F. AMES.

[A few years since I made a pair of these benches of 1x4 stuff throughout. Made them 12 feet long, but soon found they were too short for our big corn, so put 2 feet on each end, the latter sloping up gently. The benches are a great convenience where one has very much corn to husk. I first got onto the idea by throwing the shocks across the feed racks when husking in our Ohio sheep stables.—ED.]

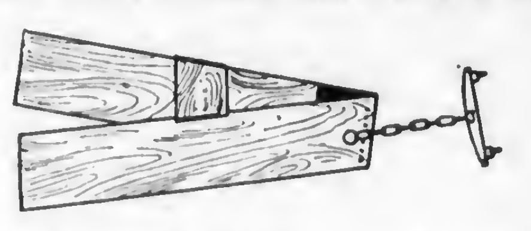
Buying Farm Machinery. — When about to buy new farm machinery there are many points to be considered. Many a farmer has bought a tool in a hurry only to find out to his sorrow that it is either too heavy for his team or not adapted to his land. Buy only those farm tools that have been thoroughly tested in your own locality, and only from first-class reliable firms. Do not buy second-hand machinery, as a rule; go without a little longer if need be, in order to get new. Of course, there are times and places where you may really get a bargain in an old machine, or one partially worn, but generally it will cost enough in repairs in a short time to make it profitable to buy a new one.

Uniondale, Pa. E. M. SMITH.

Tools for Winter Use.—There are a few tools and implements that farmers who burn wood will need to use the coming winter. These are the ax, saw, horse sled, etc. We believe it is a good plan to prepare for the stoves a year's supply of wood during the winter while business is not as pressing as in the summer. Where there is sufficient wood on the farm for all requirements, see that wood of good quality is prepared for house use. A good proportion of it should be hard wood, as oak, maple, birch, etc. A growing tree cut and dried makes the best wood, I think. Burn but little if any green wood; it is heavy to handle and I believe it takes more of it to keep the fire burning well. Give me dry wood every time. In order to do good, fast work, and do it easy, it will be necessary to keep the tools sharp. Do all the hauling you can with the sled in winter; it is easier to load things on the sled than on wheels, and whatever we are able to do in winter will forward the spring work.

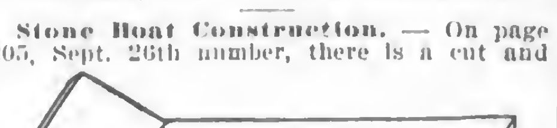
Saco, Me. E. T. PERKINS.

Snow Plow.—Take four boards, each 6 feet long and one foot wide. Place two on each side, letting the ends come together in front, spacing them about 4 feet apart behind. Nail a 3-cornered piece of wood on the inside at front end and nail on the bottom; also one board on top for a seat. Bore a hole through the front end in the centre up and down and attach a singletree with a chain. Now if you wish to see the snow fly and good paths made, hitch a horse to the singletree and go ahead.



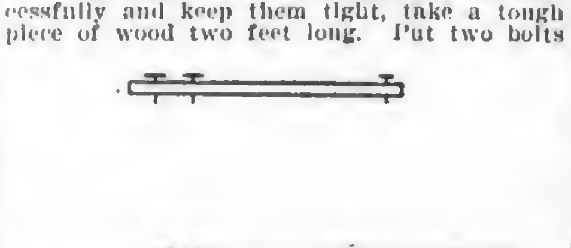
Shadeland, Pa. D. S. WOODWORTH.

Stone Boat Construction. — On page 205, Sept. 26th number, there is a cut and description of a stone boat. This boat will give much better satisfaction if the rake piece is fastened to front end of bottom instead of on top. The proper construction is shown in the cut presented herewith. In going forward small sticks and sharp points will not catch in the joint and wedge it off or apart.



Elizabeth, Ind. JOHN P. TREECE.

Wire Tightener.—To tighten wires successfully and keep them tight, take a tough piece of wood two feet long. Put two bolts through one end 3 inches apart, letting the heads project half an inch. Near the other end place another bolt. To tighten wire place it between the two bolts in the end of stick and turn around as a lever till wire is tight, then catch wire with bolt head in other end to hold the slack. J. W. COVERT.



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◆

Bird's Economical Roofing. — F. W. Bird & Son, of East Walpole, Mass., with branch house in Chicago, are fortunate in the possession of two of the best of the cheaper roofings on the market, and we hardly need mention their names to tell our readers what they are. Their Neponset Red Rope roofing is the cheaper of the two, and is specially adapted to roofing and siding of poultry houses, out buildings, sheds, etc. While it is not claimed to be a permanent roofing, yet many are the instances where it is still in good condition after having done duty ten or twelve years. This quality, together with the ease of laying it and the exceedingly low price at which it is sold, have made it a familiar sight in all parts of the country. The Paroid roofing is of a highly permanent character. It is a fabric, not a paper; there's no tar in its composition; it never gets brittle or cracks, and it is noted for its smooth, flat laying and the great length of service to be obtained from it. Its qualities adapt it to use for more pretentious buildings, as barns, and even fine residences. For such service the price is exceedingly low, though sold, of course, at a higher price than the Neponset. Both roofings are alike in this, that a complete roofing kit accompanies each roll and anybody can lay them. "Building Economy," a booklet about low priced roofings, distributed by the manufacturers, is well worth reading. It is mailed free if you mention P. F.

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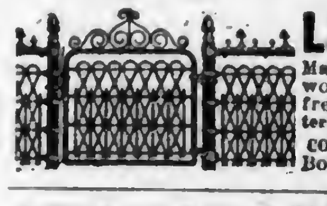

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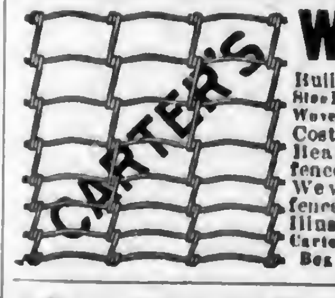

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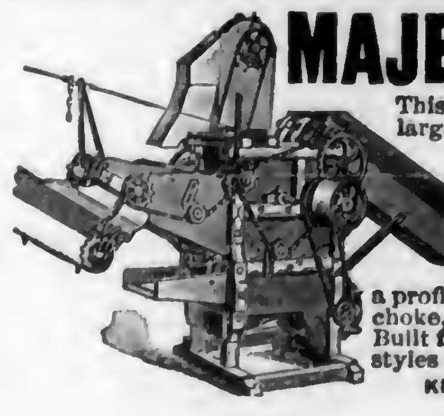

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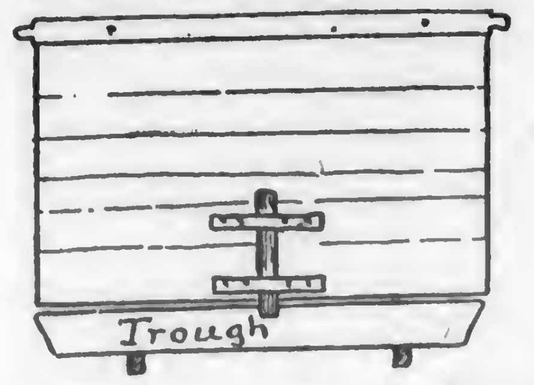
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Device for Feeding Pigs.—Take a 2-inch or a 2½-inch bit and bore a hole in each post at the end of the trough about four feet above the trough; take a piece of scantling long enough to reach each post. Make it round at each end to fit in the holes. Make two mortises in the scantling for arms. Make the arms so long that they reach nearly down to the trough. Nail the boards at the arms, as shown in the cut. Nail a block at the lower end of each post so that they will not push it out. Make a latch at the bottom of the gate that keeps the gate out. For feeding, pull up the latch, push the gate in and push the latch behind the trough. Put the feed in the trough and let the gate out again. F. J. McALLISTER.



Alliance, Pa.

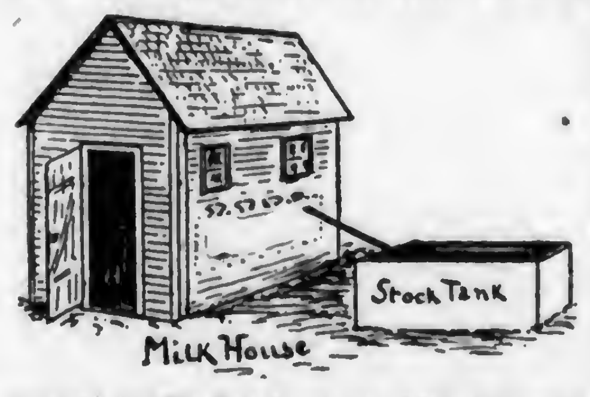
Preserving Pumpkins. — For many years I tried to preserve pumpkins so that the pieces would keep their shape and not boil to pieces. At last I found the way, as follows: Make a syrup of sugar and water, allowing one-half pound of sugar for each pound of pumpkin. Let the syrup come to a boil. Have the pumpkin cut in pieces about four inches long and one inch wide; put in the pumpkin and let the whole thing boil up, then set off the stove and let it get cool. Then set back on stove and let it cook till the pumpkin is clear, then take it up and put in jars, and if syrup is too thin boil it down and pour over the pumpkin. Any spice desired may be added. Peaches and other fruit may be cooked in the same way.

Oakley, Tex. WALPOLE NOCKOLDS.

Fighting the Fly Pest.—The most effectual way we have ever tried of ridding a room of flies is for two persons to start at the side or corner of the room furthest from the outside door and separate, going rapidly around opposite sides of the room with a towel or apron in their hand, with which to drive the flies ahead of them, and meeting at the outside door. The one nearest the door closes it while the other one goes out with the flies through the screen door. After brushing them all out of the screen door, close it, and open the inside door wide again and proceed as before. After a little practice a room may be almost entirely rid of flies in a very short time. Have the door wide open and windows closed (blinds down if there are any) before beginning. My sister and I have driven the flies from our kitchen in this way nearly every afternoon this last summer. SYBIL McFARLAND.

R 4, Utica, O.

Cooling Milk. — Prof. Farrington says at the Dairy School Creamery they advise their patrons to use a milk cooling house arranged similar to the one shown in illustration. All stock farms now-a-days are supplied with windmill and watering tanks. The cans of milk may be set in the tank inside the milk house, and all the water which is pumped for the live stock by passing through this tank will keep milk cold until it is ready to be taken to the factory. Where farmers are fitted up with such an arrangement as this says Prof. F., we receive a first-class quality of milk. In some cases small gasoline engines are used to pump up the water, and this arrangement will avoid the risk of having the water get too warm in a windless time. An excellent arrangement for a creamery. H. W. E.



To Save Washing.—As gathered dresses (Mother Hubbards and round yokes) reach out so as to catch dirt whenever a child reaches over, I make Ruth's by the fitted lining pattern belonging to a French dress pattern, and put a deep ruffle around bottom for needed fulness.

To Save Cloth, Time, etc., I put tucks in front of Ruth's dresses and around sleeves, below elbows and around ruffle at bottom. Then as she grows stouter and taller I let out tucks in front, making neck larger if necessary and let the tucks at sleeve and ruffle out also. Since making tucks this way I only have to make six common dresses a year; before I used to make twelve.

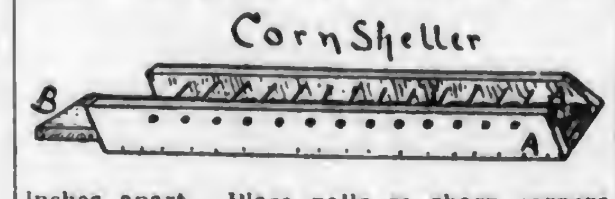
R 2, Gardiner, Me. HATTIE PEACOCK.

Stopping Gullies.—The most successful method I have found for stopping gullies is to take timothy hay which has been damaged by rain or flood, and fill gulley full of it from end to end. Soon a nice set of grass springs up over the gulley. Washes made by a creek or branch can be easily stopped by covering them with damaged hay to get a set of grass where it would be injurious to plow for seeding. L. T. KIRKPATRICK.

Mooresburg, Tenn.

Vinegar for Money.—We have in past seasons managed to get quite a little financial help from our waste apples, by converting them into vinegar. Good, pure cider vinegar is quite salable in most localities, and when sold at retail, to neighbors, etc., yields a little income right along. We have used the method described in Bulletin 182 of the North Carolina Experiment Station, as follows: Take sound barrels or any suitably sized vessels of wood, earthenware or glass—never iron, copper or tin. Clean thoroughly and scald. Fill not more than half full with the cider stock, which should have fermented at least one month. To this add one-fourth its volume of old vinegar. This is a very necessary part of the process, since the vinegar restrains the growth of the chance ferments which abound in the air, and at the same time it favors the true acetic acid ferment. Next add to the liquid a little "mother vinegar." If this latter is not at hand, a fairly pure culture may be made by exposing in a shallow, uncovered crock or wooden pail a mixture of one-half old vinegar and one-half hard cider. The room where this is exposed should have a temperature of about 80 degrees F. In three or four days the surface should become covered with a gelatinous pellicle, or cap. This is the "mother vinegar." A little of this carefully removed with a wooden spoon or stick, should be laid gently upon the surface of the cider prepared as above described. Do not stir it in. The vinegar ferment grows only at the surface. In three days the cap should have spread entirely over the fermenting cider. Do not break this cap thereafter so long as the fermentation continues. If the temperature is right the fermentation should be complete in from four to six weeks. The vinegar should then be drawn off, strained through thick white flannel, and corked or bunged tightly, and kept in a cool place until wanted for consumption. If the vinegar remains turbid after ten days, stir into a barrel one pint of a solution of one-half pound of isinglass in one quart of water. As soon as settled, rack off, and store in tight vessels. Usually no fining of vinegar is needed. No pure cider vinegar will keep long in vessels exposed to the air at a temperature above 60 degrees F. "Vinegar eels" are sometimes troublesome in vinegar barrels. To remove these, heat the vinegar scalding hot, but do not boil. When cool, strain through clean flannel, and the "eels" will be removed. H. E.

Surprise Corn Sheller.—A A are two boards 3x24x⅞ inches; B one board 3x26x⅞ inches. Nail together in form of trough; then insert square cut nails one-half inch from upper edge of A A, one and a half inches apart. Place nails so sharp corners set at an angle of about 45 degrees. To use, seize an ear with point from you and push downward across nails with light pressure, and you will be surprised and delighted.



Argos, Ind. E. T. ROBINSON.

Hints on Papering.—When papering a room leave all the edges that extend over door and window frames, and over base board until they are perfectly dry, then take a sharp knife and trim them off. It will take only a few minutes to go over a room, and will make it look as neat as a pin.

Fairview, Pa. MINNIE MICHAEL.

Plant Cover.—When you set out tomato and cabbage plants, you will want a cover of some kind for a protection from the sun. The leaves of the common burdock make good ones. Let a patch of them grow somewhere and you will find them to be a cheap and effective protection for plants. Sometimes you must put a rock or a clod on each end to keep the wind from blowing them off. We have used them for many years.

Inwood, W. Va. ELLSWORTH H. MISH.

To Keep Glass Fruit Jars from bursting while being filled, have a pan on back of stove with a cloth in same and enough hot water to keep cloth thoroughly saturated. Wash your jars in warm water and place in this pan while filling and you will have no trouble with jars bursting. Most people use tin cans for tomatoes, as they seem to keep better than in glass. These often look badly after using the first year, but by lining them with white paper they will again do as well as new, and can be used for several years. I use writing paper.

R 4, Sigourney, Ia. MRS. O. J. HOFFMAN.

Driving Posts in Dry Weather. — A contributor to N. Y. Farmer gives the following method of driving posts in dry weather and soil: Use a crowbar to sink a hole where a stake is to be set. Into the hole pour a pail of water, filling the hole to the top, and letting the water soak the ground thoroughly. In a few minutes the water will pass into the dried dirt, softening and loosening it. A hole thus made and treated will suffice to make easy the driving of a stake several times as large as the crowbar. The stiff soils will need to soak longer than the light, loose soils. In one streak of clayey soil I found that it was best to let the water stand in the holes a longer time. In the case of loose ground but a few minutes were needed to wet and loosen the dirt. In the lighter soils it is well to drive the stakes as soon as the water has been absorbed. The absorption loosens the soil so that the particles will press together under the pressure of the entering post. Before setting the post in the hole, put in a little water. This will paste the dirt on the sides of the hole and reduce the friction to the least degree. SUB.

Only Safe Medicine for Babies.

The insides of babes-in-arms and little children are very delicate and tender. Mothers must not be reckless in the use of physics. There is only one gentle, perfect, safe medicine for babies:

"Cascarets are fine for ladies with infants, as they keep both mother and child from becoming bilious. I use them daily in my practice."-Dr. A. E. Griffin, Stubblefield, Tex.

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"Our baby was sick and we were advised to try Cascarets. He was entirely cured. We cannot say too much in praise of Cascarets."—Mrs. Mollie Bowman, Metropolis, Ill.

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"Cascarets work easy and without pain. I have given them to my babies with splendid results."
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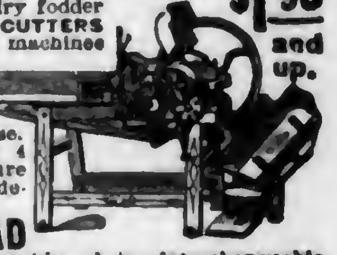

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I have a herd of short-horn cattle that I fed "International Stock Food" to all the year around, and it paid me big. I fed it to my ewes and lambs with the best results. To make a long story short, I can't nor won't be without it. I recommend "International Stock Food" to all breeders of fine stock. Very respectfully, CLARK GAMBLE.

☞We Have Hundreds of Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited.☜

We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all our WORLD CHAMPION STALLIONS, DAN PATCH 1:56¼, DIRECTUM 2:05¼ and Roy Wilkes 2:06½; and also to our YOUNG STALLIONS, BROOD MARES, COLTS, WORK HORSES, CATTLE and HOGS. "INTERNATIONAL STOCK FOOD" 3 FEEDS FOR ONE CENT is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite, Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It will make your Calves, Colts or Pigs grow amazingly and will keep them healthy. It is Absolutely Harmless even if taken into the Human System. You insist on eating the following medicinal ingredients with your Own food at every meal: Table Salt is a stomach tonic and worm medicine, Table Pepper is a powerful stimulating tonic, Table Mustard is a remedy for dyspepsia, Table Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper and Over One Million Progressive Farmers and Stockmen. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World, and has the Largest Sale ever known. ☞Your Money will be Promptly Refunded in Any case of failure. We Refer You To Any Bank Or Wholesale House In Minneapolis. ☞Beware of the many Cheap and Inferior Imitations now on the market! No Chemist can separate and name all the Different powdered Roots, Herbs, Barks and Seeds that we use in our preparations. Any Chemist or Manufacturer claiming to do so Must be an Ignoramus or a Falsifier. Imitations Are Always Inferior. Insist On Having The Genuine And You Will Always Obtain Paying Results.

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Weather very dry; so dry that wheat and other grain sowed will not come up. Corn gathering at hand and a good crop. Stock looking well and hogs good price. Have had a good frost and thermometer went down to 28 degrees. The present crop of clover very good. Good many land sales in this county at present; selling at $5 to $100 per acre; wheat, 80c.; corn, 45c. per bu.; hogs, 4½c.; cattle, 3c. per lb.; horses from $50 to $150 per head. A continued and successful life to The Practical Farmer. ERNEST HUMMEL.
R 1, Bell Buckle, Tenn., Nov. 9, 1903.

Located 19 miles northwest from New Albany, in Clark Co. Have had very dry summer and fall. Wheat about half a crop, and much of it light and chaffy; oats almost a failure; corn two-thirds crop, very poor on upland on account of drought. Wheat sowing completed and corn husking in order. Prices: Wheat, 85c.; corn, 55c.; oats, 40c.; potatoes, 65c.; apples, $1 per bu.; butter, 18c. per lb.; eggs, 17c. per doz.; chickens, 10c. per lb. JOHN B. OVERTON.
Borden, Ind., Nov. 9, 1903.

Located in Jefferson Co., 6 miles east of Charlestown, the county seat. This is the famous Shenandoah Valley, often called the "Garden Spot." Fine weather now for doing fall work. Climate healthy and land fertile. Apples and crops gathered; now busy corn husking. Principal crops are apples, wheat and corn. Wheat, 80c.; corn, 60c. per bu.; chicken, 15c.; butter, 25c. per lb.; horses, $50 to $200 each. Good markets; country up-to-date; rural routes, telephones, etc. The Practical Farmer steadily growing very popular. G. SHIRLEY.
Summit Pt., W. Va., Nov. 9, 1903.

People are busy gathering their crops. Corn a very light crop; cotton is a very good crop but is opening slow on account of dry, cool weather and being late; price about 9 to 9½c. per lb. There has been a large amount of hay and fodder housed for winter. Pastures and stock range have been good but are about dry; but stock looks well. A good many hogs and lots of hickorynuts and acorns; plenty of beef cattle and milch cows. Plenty of work to do of most any kind; lots of coal mining and coal hauling going on now, and large quantities being shipped. Good upland sells at about $4 to $5 per acre; horses, from $20 to $100; milch cows, $12 to $30 each. A good crop of apples; first crop Irish potatoes good; second crop not so good. Many people prospering by reading The Practical Farmer. A. D. PRICE.
Hunt, Ark., Nov. 7, 1903.

Located in Richardson Co., Southeastern Nebraska, on the B. & M. R. R. This is strictly a farming and stock raising country. Wheat made from 10 to 20 bu. per acre (usual crop 20 to 30); corn is making 30 to 40 bu. per acre, but hands cannot be had for gathering; price paid for husking 2½ to 3c. per bu.; oats made 30 bu.; potatoes 50 to 100 bu. per acre; no apples to speak of. A large crop of honey was taken off by those who have bees. Every farm has a large flock of poultry. Corn is 30c.; wheat, 60c. per bu.; butter, 15 to 20c. per lb.; potatoes, 75c. to $1 per bu.; sweet potatoes, 2c. per lb.; horses are high, $100 to $150 for good ones. Telephones and free mail are everywhere about us; splendid schools and many churches in city and country. Near the markets of Kansas City, St. Joseph and Omaha. Land, $80 per acre, but none for sale. J. O. SHROVER.
Humboldt, Neb., Nov. 7, 1903.

On the basis of 100 per cent. being an average crop, wheat this year yielded 25; corn 50; oats 100; hay 125; potatoes, Irish, 75; sweet 50; sorghum 100 per cent. This year will be much harder on farmers than the dry year. Average acreage of wheat sown this fall. Prices: Hogs, $4.50 per cwt.; cattle, live, 1¼c.; beef, 4 to 5c. per lb.; wheat, 75c.; oats, 25c.; corn, 50c.; Irish potatoes, 75c.; sweet, 60c. per bu.; eggs, 18c. per doz.; butter, 12c. per lb.; cattle are very low and hard to sell at any price; hogs on the decline. Hired help scarce. The Practical Farmer is gaining ground among farmers. L. W. BARNETT.
Cartmell, Mo., Nov. 7, 1903.

Weather very nice now. Wheat about all seeded and some is showing nicely, although a little slow in coming up, owing to very cool weather lately. Principal crops are tomatoes, corn and wheat. Tomatoes are the money crop; a good crop this year; some made as much as 500 ⅝-baskets per acre; the price at canneries was 15c. per basket. Prices are as follows: Horses, $75 to $150; cows, $25 to $45 each; pork, $8 per cwt.; corn, 50c.; wheat, 90c.; potatoes, 50c. per bu.; eggs, 28c. per doz.; butter, 20c.; poultry, 9 to 10c. per lb. Help very high and scarce, owing to tomato canning factories being so numerous. Success to The Practical Farmer and its readers. C. E. NICHOLS.
Federalsburg, Md., Nov. 9, 1903.

Located in Shiawassee Co., Mich. Weather has been fine. We have a large crop of sugar beets; lots of apples; no winter wheat was sowed; some fall plowing has been done; corn is a fair crop; not much of it has been husked yet. Live stock is in general good condition. Following prices prevail: Butter, 14 to 17c. per lb.; eggs, 21c. per doz.; honey, 10 to 12c. per lb.; potatoes, 40 to 50c.; beans, $1.60 per bu.; dressed hogs, $6; live hogs, $4; sheep, $2.50 to $3.25; spring lambs, $4.50 per cwt.; wool, 17 to 19c.; chickens, 7 to 8c.; turkeys, 10 to 11c.; ducks, 7½c. per lb.; wheat, 80 to 83c.; oats, 34c.; corn, 50c. per bu.; timothy hay, $6.50 to $7.50; clover, $5 per ton. B. C. GRANT.
Corunna, Mich., Nov. 9, 1903.

In Alamance Co., 20 miles southeast of Graham, the county seat. We are having fine weather at present; season has been favorable for most crops. Wheat crop very short; corn good; tobacco short; sweet potatoes good. Three killing frosts; one snow, October 24th at night. Plenty of hogs; no cholera among them. Building railroads; putting up more machinery. Prices very good. Success to The Practical Farmer and all who read it. LEROY FERGUSON.
Manndale, N. C., Nov. 7, 1903.

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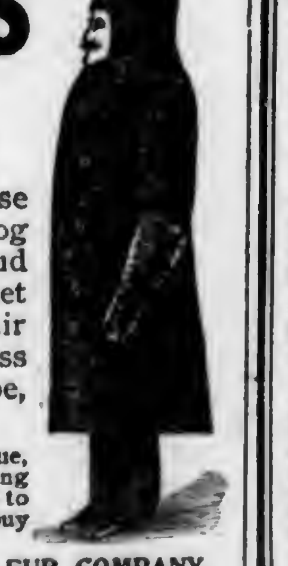

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THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

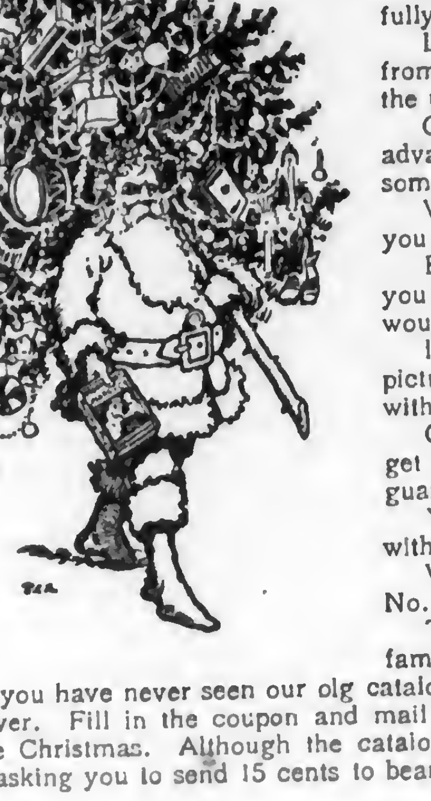
SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How Much We Have to be Thankful For.

It was a message full of wisdom that was sent by a certain woman to a friend who was laid up temporarily: "Remember your mercies." It is a grand message for us all to keep in mind at all times. But it is particularly suitable for this Thanksgiving week. Remember your mercies; the many blessed privileges you enjoy. Drop all envy of others who you think have more to be thankful for than you have. Fully appreciate the many comforts and blessings that you are surrounded with. The writer never goes to the city without coming home profoundly thankful for the peaceful, quiet, healthful life that he can live on the farm. This is no taffy; he doesn't want any of your votes; it is the solemn truth. The rush and strain and high pressure of the city, and the usual lack of the most healthful surroundings, have no charm for him. It does for an occasional visit, for business or a recreation, and to set off the farm life by its dismal background. Take it in the grocery store where we trade in the city. Scores of clerks are on the rush every instant, working to the very utmost limit of their capacity usually, and often beyond, until they get so nervous and keyed up that they hardly know what they are doing. Floor walkers are on the watch every second, and if a customer does not come to a clerk he is transferred to a customer where help is needed. When there is any lull in trade clerks are kept busy putting up orders that have accumulated, or packages of staple goods for the next rush. And then a record is kept of each one's sales and his chances for the future are governed accordingly. And all this, six days in a week, in air so impure that I dread to stay in the store even long enough to leave an order. This part of the situation is simply awful at times and must cause sickness and breakdowns and deaths far sooner than they come to those whose lives are spent on the farm. And the same conditions will be found almost universally throughout the business district of the city. Many thousands must work in stores, shops, offices, etc., where the sun never shines, and where no provision is made for systematic and thorough ventilation, and work amid noise and confusion and rush that must in time undermine the strongest nerves. Go where you will and these things are quite generally true. And men and women often become nervous wrecks when they ought to be in their prime. Then their services are no longer wanted. The young men and young women can stand the strain best, and it is usually their lives that are being sapped. Yes, and the boys and girls, too. Oh, how my heart does ache for them often. They do so need the freedom and healthfulness of country life to give them strong constitutions. I could name a fine hotel where time and again I have seen bright, fairly healthy looking little bell boys transformed in a few weeks into pale, puny, sad looking lads. This from lack of sunshine, light and fresh air. When one has to give up there are a dozen more ready to take his place. Oh, you do not realize the terrible mill that is waiting to grind you up, my young friends, when you are so anxious to leave country life for work in the crowded city. Of course wealthy people can live all right in the city, but how many are there of them? And almost without exception they have their homes away from the worst rush of city life, where something of country surroundings can be had. This is one of the first uses made generally of abundant income. Many thousands pay out every dollar they earn and cannot have a home then where the sun can shine into more than two or three windows. They can scarcely have room in their dooryards to turn around, and air to breathe that is free from dust and smoke and soot is simply out of the question. And they must pay for water, often unfit to drink, and their taxes on $100 are two or three times what we farmers have to pay. Of course they have some advantages over us, but these are growing less and less yearly. Thirty-three years ago we were almost out of the world on our farm. It is on a cross-road, at that time little traveled, and two and a half miles from town. Now we have telephone connection with most any part of the country right from our home. If a telegram comes it is telephoned over without extra cost. Every day but Sunday Uncle Sam's carrier brings and takes our mail. (I am thankful our Government keeps the Sabbath in this respect.) Electric cars pass within half a mile of our farm on their way to and from Akron and Cleveland. Only those with large incomes, in the city, can live in a better home, with better surroundings, than we have; we do not want any better. The sun can shine into every window. The air is as pure as nature gives us, free from dust and smoke and soot. All is quiet and natural. Every room in our home is now warmed in winter as perfectly as it can be done; I will not except a single palace on Euclid Avenue. We can make the bed rooms cool enough for comfort any summer night. We have a good bath room and a chance for a perfect grate fire. We know the water is pure and safe. Oh, what a change since the time we came here! How thankful we are for it all. You are not all as well situated, of course, but the greatest of these blessings you can all have, as fast as you are able, and others are coming. Be thankful for the great privileges that are within your grasp now and as fast as you can reach out and take them. In due time others will come to you. The most enjoyable life is one of steady growth and advancement. Few people know much about real happiness who have every want supplied without any effort. Be thankful that these things have been so ordered; that you may usually be the happiest class of people in the world, and work to improve your condition from year to year, and thus enjoy life. Will you spend a few evenings after you read this, my dear friends, in thinking and talking over and perhaps making out a list of the many blessings you enjoy now? Think how many are worse off than you, not with any spirit of superiority, but with thankfulness for mercies received. Try and value your own blessings at par, or as those would who do not have them. I hope what has been said above may help you some. Oh yes, and there is so much more. You are your own boss. No one can discharge you after your farm is once paid for. No one is watching to keep you at work to the utmost limit. You have quite a few days when you can be at home with loved ones, particularly in winter, and still lose no time. Your business is the safest in the world and as honorable as any. Come what may, let mills and factories close down and merchants wait in vain for customers, people must eat, and you can be sure of enough whether you have money or not. Your work goes right on. You may not get as good pay, but you are safe. And all the time your surroundings are, or may be, the most healthful in the world.

Health Hints. — Summer Air in all its Purity in the Home all Winter.— Our greatest cause for thankfulness is that we are all well and strong. How often we fail to appreciate such great blessings while we are enjoying them daily. We do not think what they are worth always until we lose them. It is well at this Thanksgiving time to think over, also, how much we have to be specially thankful for that has come to us during the past year. Individually, first of all, comes better health even than was enjoyed a year ago; good health, the result of paying attention to a few simple matters; of taking as good care of myself as one would of a favorite horse, or a valuable cow. Several decided improvements have been made in our home during the year, for all of which we are thankful; but the one that stands out way ahead of everything else, the one that I thank God for by far the most, is that we have been perfectly successful in all our arrangements for supplying the home with pure air during the winter season. This is the thing I have studied and dreamed over and longed for for years. Now we have it. In every detail it seems to be perfect. A large furnace, an extra large cold air supply and warm air pipes and registers, move in a very large volume of warm air, never hot, overheated air, such as comes from an over-crowded furnace, small air supply and small hot air pipes. The man who made them said the pipes were too large. They are larger than others have, but thank God for the knowledge that made me enforce my own ideas. By the way, the furnace man who did the job said to me when done: "Now, if there is anything wrong in this work you have only yourself to blame, as every single thing has been done precisely as you directed." Thus he washed his hands of dire results. I am thankful to be able to say that a year's hard study and figuring has not proven in vain on one single point, although there are several new departures. In addition to the air brought in by the furnace the grate brings in a supply when it is burning, all warmed. And I made the supply pipe nearly twice as large as the manufacturers advised. After use I am not sorry; more warm air, not less air overheated. Now we have it arranged so all this air brought in by furnace and grate, gently warmed, about as the sun would warm it on a June day, can be taken directly from out of doors, as pure as God made it. If in freezing weather it is not necessary to take all the supply from outside, in order to keep the inside air pure, the change can be made in an instant. This simply to save fuel. We do not want to burn any more coal than is necessary to keep the air practically as pure as it is out of doors, in every room in our home, night and day, every minute. So much for getting the air in.

Now, to ventilate and warm a home perfectly, one must arrange so air will pass out from the floor as freely as it comes in the warm air registers. This movement of air should be gentle, never felt, but still never ending. If this air from the floor is taken out of the house entirely, and at proper points, and in proper quantities, then one may have perfectly pure air and even heating at every point. The grate, whether there is a fire in it or not, takes air out from about the centre of our three living rooms. Air is also taken out of the kitchen, at the very floor, and up the chimney flue. This answers for all the rear part of the house. Air from the floor upstairs also goes up a chimney flue. These three streams of exit never stop an instant, day or night. No window, no door ever need be opened to ventilate. The air could not be improved by so doing. No one's carelessness about airing the house can vitiate the breath of life. The pure stream comes in in quantity as you set it for, never ceasing, never varying (it is arranged so the wind cannot affect the supply) and the coldest air in the house as steadily goes out from each floor. All the air in the house is frequently changed. At no point can it be stagnant for a moment. And still so perfect is the balance between inlets and outlets, and they are so situated that there is not one single point in the whole house where one can feel the slightest draught, except, of course, right over registers, not even in the stairway. Every inside door in the house is kept open except those into closets. If any air is taken from the floor of house to the furnace cold air room it is from two widely separated points. This helps about avoiding draughts. When one studies the inlet and outlet system he cannot but know that the air in the house must be practically as pure as under a tree, on an ideal summer day, with a very gentle breeze moving it. However, I have spent days testing it, over and over, under different conditions, with Dr. Wolpert's carbacidometer and chemicals. And in every instance, down stairs, upstairs and in the cellar, the air has shown up practically perfect. In fact it is better than the instrument will test regularly, as it is made to test air that is somewhat impure, but I managed to enlarge its capacity. The air in our home has less than one-half of one part of carbonic in 1,000 parts of air; yes, in the cellar and all. The draught of furnace, through check damper in smoke pipe, or direct draught damper, takes out the foul air from there, and this draws in pure air. This practically perfect purity all over the house is almost more than I dared hope for. Do you wonder I am thankful? You say, our family is small. Yes, but with a turn of the hand the stream of purity can be so increased over the ordinary that half a dozen more could not vitiate it. Takes too much fuel to warm so much cold air, do you think? Bless you, there isn't a home



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Let us suggest the advisability of buying all your Christmas presents from the largest and most reliable stock in the world selling direct to the user and saving you the jobbers', dealers' and agents' profits.

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We mention here a few suggestions, all taken from our Catalogue No. 72.

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Silk umbrella.
Pair of gloves.
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Morris chair.
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Leather couch.
Shaving set.
Neckties.
Match box.
Suit case.
Watch charm or fob.
Half dozen pairs half hose.
Pair of suspenders.
Pocket or bill book.
A good warm cap.
Heavy overcoat.
Muffler.
Fleece lined mittens.
Warm overshoes.
Magnifying glass for reading purposes.
A pair of boots.
Buckskin mittens.
Sweater.
Banjo or guitar.
Box of collars.
Meerschaum pipe.
Box of cigars.
Shot gun.
Cigar Jar.
Hunting Jacket.

For Women:

A pretty apron.
Dress pattern.
Wrap or bonnet.
Toilet set.
Manicure set.
Sewing machine.
Piano or organ.
Hat.
Handkerchiefs.
Pair of fine shoes.
Books.
Leather purse.
A new carpet or rug.
Piece of cut glass.
Tableware.
Pair of glasses.
Warm mittens.
Medicine cabinet.
Easy chair.
Bible.
Cut glass flower vase.
Jewelry.
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Fine clock.
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Set furs.
Up-to-date suit or jacket.
New stove.
Dining table.
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Pair of gloves.

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in this land, in which a grate fire is kept, where as much heat will be obtained from a ton of coal this winter as we will get. Beg your pardon for appearing to boast, but it is a fact, and I will prove it to any scientific committee you may send here. Do you remember what I said once: "Economy to the very last cent." Practically only smoke goes up the chimney. I have been simply amazed to find how little warmth, not heat, was necessary to carry this up. For days at a time our furnace smoke pipe at the chimney has not been warmer than 64 degrees, the temperature of the air in the cellar. We are using the furnace alone just now to test all the arrangements connected with it. Our pastor, Rev. Allen, called here lately. It was near freezing cold outside. The temperature of every room in the house stood almost exactly at 72 degrees. I opened the furnace door and showed him the large fire pot, full of glowing coals, that was doing the heating of eleven rooms and a hall. Then I asked him to put his hand on the smoke pipe where it entered the chimney. It was perfectly cold all around. He looked bewildered, as though he must have been mistaken about the fire inside, and went directly back and opened the fire pot door again and looked in. (He uses a furnace at home.) Do you wonder I am so thankful, with such perfect success? But I did not mean to mention anything but the pure air in the home, every minute, surely, as that is of such vastly more importance than a few tons coal saved.

Renew Your Subscription.—We hope every friend of The Practical Farmer will renew their subscription before December 1st, and thus get the Almanac for 1904 which the Business Management will send free to every person sending his or her yearly subscription on or before that date. The Almanac ought to be a help to every farmer, containing information available for his work during every month of the year.

T. B. Terry.

Incubators and Brooders. — The man or woman, boy or girl, who wants to succeed with poultry ought by all means to have a copy of the new annual catalogue of the Reliable Incubator & Brooder Co., Box B-98, Quincy, Ill. The book will convince anyone who contemplates buying an incubator or a brooder that the "Reliable" is as good as its name indicates; and there is a lot of valuable information in it about hatching and the care of poultry which is new to all but a few experts who art making fortunes out of poultry. Anyone who will follow "Reliable" methods and our "Reliable" machines, can make money out of poultry. To get acquainted with the "Reliable" people is like getting acquainted with some good neighbor, who has made a lot of money and takes pleasure in telling you how you can do it. When sending for catalogue mention The Practical Farmer.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Hulling Walnuts.—Plowing. — H. B. Smith, Osceola, Pa.—"Is there a quicker way of shucking walnuts than by hand? Is it beneficial to plow a side hill up and down which has always been plowed with a side hill plow? Please discuss in the Experience Pool the raising of calves when milk is sent to the factory?" Pile the walnuts in a heap till the hulls are well decayed and then beat them out on a floor. If the hillside plow has not broken the land well it might be well to break it in the other direction. But if the land is liable to wash this tendency might be increased by the plowing up and down the hill. We would prefer to use the hillside plow and follow in the furrow with a subsoil plow to further deepen the loosening of the soil. Late in fall is the best time to do this.

Keeping Sweet Potatoes for Seed.—I. G. Miles, Berwindale, Pa.—"How can I keep sweet potatoes through the winter for seed?" In your climate this will be more difficult than in a warmer one. In the South they are placed in heaps under an open shed and thickly covered with pine leaves and earth. In your climate probably the best place to keep them will be in a warm cellar, packed in barrels with thoroughly dried sand or sawdust. One of the best materials we have used in the colder sections is sphagnum moss from a swamp collected in summer and spread where it will get completely dry. This material will absorb just enough moisture from the air to keep the potatoes plump and free from dry rot. The moss can be bought in Philadelphia in bales from seedsmen.

Agricultural Course.—J. L. Rogers, Blum, Tex.—"I am farming; 38 years old, and raised on farm. Have been reading the P. F. and other farmers' papers for several years, also 'Our Farming,' etc. Now I want to ask, do you think it advisable to take a correspondence course in agriculture? I noticed you recommended a certain course some time ago in one of your letters, but thought you might apply it to those non-reading farmers. Can the correspondence course teach us more than the P. F., etc.? Could you advise a course of home reading for a Southern farmer who knows the necessity of changing from an 'all cotton' crop?" The guidance of a skilled instructor would be of great help to you in reading, but whether you would be aided more than you can be through the Query Columns of the P. F. it will be hard to say. A few good books in addition to the P. F. will be of great assistance. It would be better if you could leave home during the winter and take one of the winter courses at an agricultural college. But if you cannot do this then get the books. You have "Our Farming." We do not hesitate to say that "Crop Growing and Crop Feeding" will help you, too. Then it would be well to read "The Soil," by Prof. King; "Fertilizers," by Prof. Voorhees, and the "Fertility of the Land," by Dr. Roberts. If you read these this winter they will be as much as you should undertake. You can get all of these from The Farmer Co., Phila.

Fencing a Goat Pasture.—J. B. Blacknall, West Durham, N. C.—"I am going to put a barb wire fence around 80 acres of land for a goat pasture. I am told that goats will not wade across a stream. I can save about three-quarters of a mile of fence if this is true. There is some buckeye in the pasture. Will goats eat it? If they do, will it kill them as it does cattle?" We are unable to say whether goats will cross a stream or not. If they will not it is the only thing on earth they will not attempt, for we have seen them go over a barn to get out. Better cut the buckeyes out of the pasture as they may possibly make trouble, though we have seen goats running at large on a range where there was plenty of buckeye and never heard of any harm coming to them. In fact a goat is about as well able to take care of himself as any living thing.

Chufas for Hogs. — W. W. Gibson, Pulaski, Pa.—"Are chufas valuable for fattening hogs, and can they be grown successfully this far North? If so please tell where they can be had, and how best to grow them. A colored man, raised in North Carolina, told me about them and spoke highly of them." The chufa, Cyperus Esculentus, is one of the sedges that bears a large crop of tubers under ground, and is considerably planted in the South for feeding hogs, the hogs being allowed to gather the crop for themselves. At the Alabama Station a crop was planted on thin sandy soil and part of it was gathered and yielded at rate of 172 bushels per acre of fresh tubers, or when shrunk and dry 115.24 bushels per acre. They are considered a very exhaustive crop on the soil. We know of no reason why they may not be grown in Pennsylvania, but the yield would probably not be as large as in a longer season in the South. The dry tubers are simply dropped in furrows like potatoes and cultivated in the same way. Any of the leading seedsmen can probably furnish the tubers or get them for you. They are commonly sold at grocery stores in the South, and as the nutlets are sweet and eatable they are very often bought for this purpose like peanuts. Hogs thrive finely on them, and if allowed will get them all out of the ground for themselves. They thrive best in a moist, sandy soil.

Lime, Sulphur and Salt Mixture.—J. D. O'Connell, Winchester, Va., sends us a clipping from the American Agriculturist containing the account of Mr. A. N. Brown, of Delaware, of his method of preparing the lime, sulphur and salt for spraying. He asks the opinion of the Editor on this method. We can only say that we have not tested Mr. Brown's plan, but have great confidence in any recommendation he makes, as he is an intensely interested and practical man. We propose to try Mr. Brown's method as described in the Agriculturist: "I secure a good sugar barrel holding about 60 gallons, have it secured with two more hoops driven tight. Place in it 40 pounds of the best stone lime obtainable. I take another vessel, an ordinary wash tub will answer, and place into it 20 pounds of sulphur (flowers of sulphur preferred); I now take two gallons of boiling water and add it to the sulphur, a little at a time, stirring it constantly until I have a perfect sulphur paste. The little globules or particles of the sulphur will puff or swell up and burst, a condition indicating that the sulphur is perfectly dissolved. * * * Pour 12 gallons of water over the lime in the sugar barrel and immediately add the sulphur paste. Cover the barrel with an old blanket and let it cook 20 minutes. During this cooking I do no stirring, except occasionally using a garden hoe to prevent the lime from settling, and thus prevent its burning. * * * I now fill my barrel with warm water to the required 60 gallons; add 15 pounds of coarse salt, stir a few moments or until the salt is dissolved; strain into the spray barrel or tank and apply it while fresh and warm." We believe that this method of Mr. B. will solve the whole difficulty of the application of the lime, sulphur and salt mixture, and we also believe that of all the remedies that have been tried for the San Jose scale and other scales it will be the safest and best.

Fine Alfalfa.—A day or so ago the Editor received a letter, stating that the writer had forwarded under another cover a large plant, which he wished identified, and to know whether it is valuable or a pest. Yesterday the plant arrived, while in the meantime the letter has disappeared, and we cannot say who sent the plant, a fact we would like to know, for it is as fine a specimen of alfalfa as we have ever seen, the top being nearly three feet tall and the stout tap root, an inch in diameter, is fairly crusted over with the nodules of the nitrogen ferments. We hope that the sender will recognize his plant from this description, and we will be glad to learn who it was and where he lives, for if he can grow alfalfa of that size, without knowing it, his land must be well adapted to it and is well inoculated, as the roots of this plant show.

Cow Peas to Run on Corn. — J. F. Haag, Holton, Kan.—"I would like to get a variety of cow pea that would run on the corn stalks so that I could cut the peas with the corn binder. Have tried several varieties, but none of them seem to climb much. The Whippoorwill did pretty well this year, but the binder did not get them all, as they were too close to the ground. If I could get a pea that would be a success planted with the corn it would be a grand thing even if we had to send South for seed every year, for one bushel will plant ten acres." We think that if you will plant the Wonderful with your corn you will have no reason to complain of its not climbing. On strong land the only difficulty we would apprehend would be to find the corn. The Large Black pea is also a good runner, and would probably mature with you, while the Wonderful would hardly make ripe seed. The Whippoorwill is about the poorest you could have selected for the purpose, though a very good pea for general use North, for it is a bush and dwarf variety, making plenty of peas but few vines. Either the Wonderful or the Black will fill the bill, and the Clay also would do well.

Plowing Steep Lands. — Apples in N. C.—E. F. Ruff, Dimsdale, N. C.—"I have been reading The Practical Farmer for two years and have seen nothing about the plowing of steep lands. A large part of my land lies so steep that I cannot turn it uphill, and I would like advice on this subject. I think that here all stubble land should be plowed in the fall, for the wind will blow a good heavy stubble off our lands in winter, and the land will be naked by spring. It does not matter what kind of stubble it is, pea vines, crab grass or anything else is all gone in the spring. Would you advise a hillside plow? Some farmers here say that it will kill the hill lands to turn them. I see that in the Experience Pool you mention an apple called Mattamuskeet as a good keeper. Can you tell me if it would keep with me, as I suppose it is as warm here as at Raleigh? I think of setting a small orchard of this if it will keep well and sell well on the market." The only thing for your steep mountain lands is the hillside plow. They have been scratched with the bull tongue till care will be needed in using a turning plow, and not to go too deep all at once. If you could run two teams, a good pair of horses to a hillside plow and then put the bull tongue in the same furrow behind them so the subsoil would be loosened and not turned up, you will find that instead of killing the land it will be greatly benefited and less liable to wash. The winds that sweep over your mountains in winter doubtless do blow off all the dead vegetation, and it will be of advantage to bury it and then sow rye on the land as a winter cover, for that will not blow off. The Mattamuskeet apple was originated on the peaty soils of Hyde county and is there a good apple, but we would not advise it in your section of the State, where it would hardly ripen at all. It is not a handsome apple, and is only of value in the warmer sections of the State where better apples cannot be well grown. In your section you can grow any of the best apples, and should not use the Mattamuskeet. If you plant anything on the supposition that your climate is as warm as that at Raleigh you will find that you are greatly mistaken, for you are in a far more elevated and colder section than the city of Raleigh. Where the Mattamuskeet apple is grown the climate is so mild that they can leave them on the ground under the trees all winter, covered with leaves.

Grass for Name. — Robt. Arnott, Sr., Persia, Tenn. — The grass you send seems, so far as we can determine from the very imperfect specimen sent, to be tall meadow oats grass. This is a valuable hay grass for your section.

Maryland and Virginia Lands. — W. Stuart, Winchester, Ky.—"Have noticed your speaking well of the soil and climate of North Carolina. Lands here in the blue grass country are very high priced, and I can get $125 per acre for mine, and have a notion to sell and buy further South, where the climate is more mild. Would like to have your counsel as to the lands on the Eastern Shore of Maryland, the Roanoke Valley on the Seaboard Air Line R. R., Piedmont North Carolina and Northern Georgia. Have been following general farming, with small dairy and some tobacco." About the hardest task one has to do is to advise men in regard to a change of location. It seems to us that one coming from the blue grass country of Kentucky would naturally want something similar if it could be had. There are some good lands near where the Seaboard R. R. crosses the Roanoke, but it is largely a very undeveloped country, and social advantages are rather deficient. In the valleys of Southwest Virginia there is a superb blue grass country along the Norfolk & Western R. R. from Roanoke to Bristol, with a climate generally no warmer, if as warm, as Kentucky, because of its elevation. The upper counties of the Eastern Shore of Maryland, Cecil, Kent, Queen Annes and Talbot are hard to excel for general farming and fruit growing, and their nearness to the great cities and abundant transportation facilities, with fine social conditions make them very desirable. If we were looking for a place to settle we do not know any that we would prefer to the bayside section of these counties. Then Piedmont North Carolina is a broad expanse of country, generally rolling to hilly, with the usual red upland of the South and fine bottom lands along the rivers and smaller streams. The lands have, as a rule, never been farmed as they should have been, but they are easily brought up to a high state of productiveness, and as an investment at the low prices at which lands can be had in most of this region, they can be made to pay well for intelligent improvement. They can be had for a great deal less money than the Maryland lands, while the climate is all that need be desired. In Georgia, so far as we have observed, we would prefer the middle section about Macon, or Athens on the east. But no one should buy land anywhere without carefully examining not only the soil, but the surroundings of every sort. It is always better in any section to buy well improved lands, near transportation, and with pleasant social conditions than to get land that is low in price because of its location and lack of improvement.

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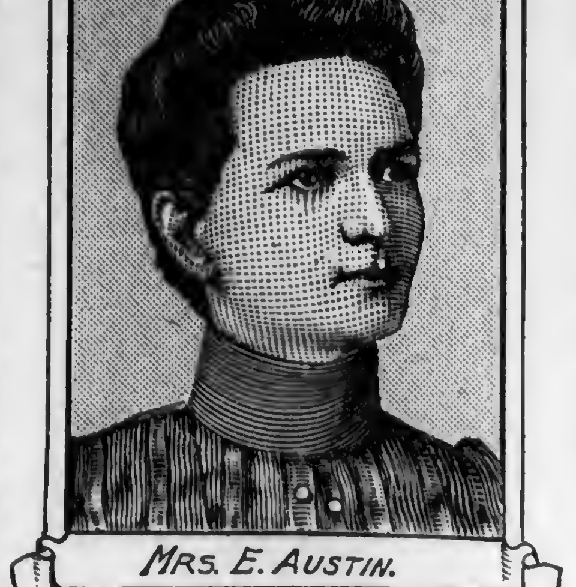

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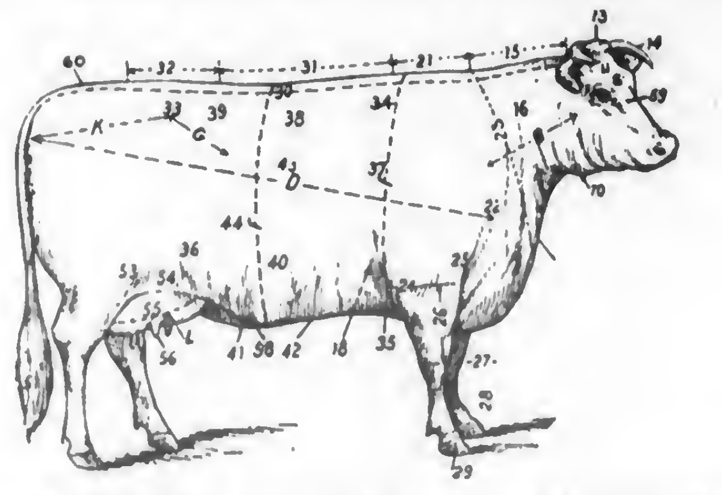
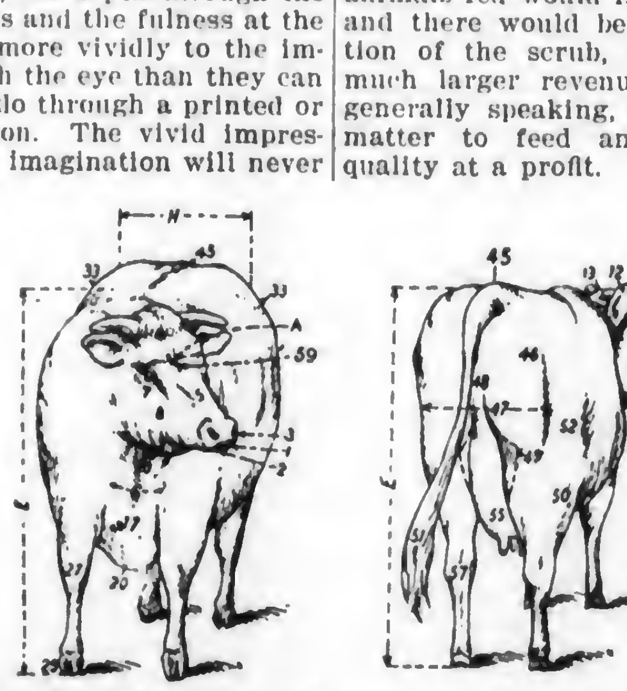
Live Stock and Dairy.

A Standard for Beef Cattle.

PROF. A. M. SOULE.

How shall we know a good beef animal when we see him? What do you mean by a standard or an ideal, and why is it essential that every breeder and feeder have some definite notion concerning the same? These are some of the questions that are constantly being asked by those interested in the feeding and breeding of beef cattle. In a certain sense the answer seems very easy, but on the other hand it is a very difficult matter to convey the necessary ideas to the minds of those who have not given the subject any special study or who may be situated in a locality where no first-class specimens of beef cattle are found. The best way for anyone interested in this subject to obtain a clear idea of the characteristics a standard type of beef animal should possess, is to visit some herd where choice specimens of a well established beef breed may be seen. True, there are minor differences between all breeds, but the characteristics of the ideal beef animal are, for all practical purposes, the same. The senses are the most certain medium of conveying to the mind of the interested party the qualities that enter into the make-up of an animal well adapted for beef making. The eye takes in at a glance the perfect form and symmetry of a well balanced cattle beast. The depth and covering of flesh are apparent at a glance. The rectangular conformation, the depth through the body and quarters and the fulness at the twist all appeal more vividly to the imagination through the eye than they can ever be made to do through a printed or written description. The vivid impression made on the imagination will never be forgotten and so the standard or the type that should be sought in a beef animal where the most perfect development is expected, where the largest per cent. of good meat will be obtained from the slaughtered carcass and the largest and most uniform gains made, is best obtained through a personal observation, through coming in contact with animals of the right conformation. The novice is always skeptical and inclined to question the advice and doubt the wisdom of those who have had experience in these matters. If living in an isolated community, he is afraid to start off some distance to inspect a herd of cattle that have been called to his attention for fear his neighbors will laugh at him. They are very likely to say that there are no differences in beef cattle, though they know better. They are very likely to intimate that it is impracticable to have animals any different from those already found in the locality. They are very likely to laugh at the idea of having standards and then through the principle of selection, breeding to a definite type for the purpose of securing an animal possessed of better form without the coarseness of the original type.





Besides the value of an ocular examination, there is a great advantage in handling a well fleshed animal possessed of true quality; that is, an animal whose hair is soft and silky and whose skin is thin and pliable, whose body is well covered with a firm, elastic flesh, free from patchiness, while the bones are fine, the eyes clear and bright and the flesh covering the body uniform throughout. The mere examination and handling of an animal possessed of these qualities is the best, surest and simplest way of establishing an ideal or standard of what a good type of beef animal should be where one has not previously had an opportunity to study the subject.

The greatest difficulty in this matter is, first, to establish a correct standard, and, second, to fully appreciate the importance of a standard as related to the economic production of beef. Once the standard is established, a study of the score card and a clear understanding of the qualities desired in each point will soon enable the novice to gain a clear idea of the characteristics sought in a good type of beef animal. The value of being a good judge of animals cannot be overestimated. It means everything to know how to estimate the value of an animal on foot and its probable worth when placed on the block; to be able to say with some definiteness how readily he will lay on flesh, whether he will dispose it evenly over the body and whether there will be a large or small amount of offal when he is slaughtered. Were all the persons who are interested in the feeding and breeding of beef cattle fully cognizant of the importance of a standard, and did they realize how easy they might acquire a fairly definite knowledge of the correct type, the class of animals fed would improve wonderfully and there would be a general elimination of the scrub, which would mean much larger revenues to the farmers, generally speaking, for it is a difficult matter to feed animals deficient in quality at a profit.

To become a fairly good judge of beef animals, it is first necessary therefore to come in contact with ideal specimens of the beef breed; second, to handle these carefully so as to acquire a definite knowledge of the characteristics a well fleshed animal should possess; third, to fix a definite ideal or standard in the mind, and then work through the medium of a systematic selection of common stocks to that end; fourth, to study the scale of points and to learn the correct development sought in that region or the deficiencies that may exist and how these may best be eliminated. Is this practical? Will it be of benefit to the average farmer? Yes, a thousand times yes. The time has passed when the farmer can afford to brand everything as impracticable with which he is not thoroughly familiar. The exigencies of the times require the adoption by the farmer of every means which will aid and benefit him in the struggle for existence which economic conditions are forcing upon him. One of the most important things for him to study and be familiar with is the true form and type of beef animals, in order that he may select and feed his stock so as to obtain the largest price for his crop and the best sale price for his animals.

Below is shown a scale of points for beef cattle which sets out the characteristics each point should possess very definitely. Consult this and study the key and the attached chart and it will prove a means of acquiring much definite information that can be used daily to material advantage of the stockman.

SCALE OF POINTS FOR BEEF CATTLE.

	Perfect Score
A.—GENERAL APPEARANCE.	
1. Estimated weight....lbs., actual....	
2. Weight, according to age, yearling 800; two-year 1,200..........	5
3. Form, deep, broad, low-set, with straight top line and under line..	6
4. Quality, hair, fine; skin, pliable; bone, dense. All parts evenly covered with firm flesh........	6
5. Style, active and sprightly.......	1
6. Temperament, neither sluggish nor wild	4
7. Constitution, vigorous, robust, showing size and substance..........	4
B.—HEAD AND NECK.	
8. Muzzle, fine; mouth, large; lips, thin; nostrils, large..........	1
9. Eyes, large, clear and placid.....	1
10. Face, short; expression, quiet.....	1
11. Forehead, broad and full..........	1
12. Ears, medium in size; fine in texture	1
13. Neck, thick and short; throat, clean	2
C.—FOREQUARTERS.	
14. Shoulder vein, full..............	3
15. Shoulders, smooth, well fleshed, compact on top	4
16. Brisket, extending well forward; breast, wide	2
17. Dewlap, light	1
18. Legs, straight and short; arm, full; shank, fine, smooth	3
D.—BODY.	
19. Chest, full, deep and wide; girth, large; crops, full	10
20. Ribs, long, well arched and thickly fleshed	5
21. Back, broad and straight	6
22. Loin, thick and broad...........	5
23. Flank, full and even with underline	3
E.—HINDQUARTERS.	
24. Hips, smooth and proportionately wide	4
25. Rump, long, even and wide; tail-head, smooth	5
26. Pin bones, smooth and well set apart	3
27. Thighs, full	3
28. Twist, deep and plump..........	4
29. Purse, full	2
30. Legs, straight and short; shank, fine and smooth	3
31. Tail, fine	1
Total.........	100

POINTS AND MEASUREMENTS TO BE OBSERVED IN JUDGING BEEF CATTLE.

1. Mouth. 2. Lips. 3. Nostrils—air passages. 4. Muzzle—bare. 5. face—from muzzle to poll. 6. Forehead—from eyes to poll. 7. Eye. 8. Cheek—side of head below eye. 9. Jaw. 10. Throat. 11. Brains. 12. Ear. 13. Poll—top of head. 14. Horns. 15. Neck. 17. Breast or bosom—front of chest. 18. Fore flank—rear of arm. 19. Dewlap—loose skin underneath the throat. 20. Brisket—point of chest. 21. Withers—top of shoulders. 22. Shoulder point. 23. Neck or collar—depression in front. 24. Elbow. 25. Chest—cavity enclosing vital organs. 26. Arm—portion of leg between shoulder and knee. 27. Knee. 28. Cannon or shank—bone between knee and ankle in fore or hind leg. 29. Hoof. 30. Spinal column—backbone. 31. Barrel or coupling—middle piece. 32. Loin—muscle covering the short ribs. 33. Hooks or hips. 34. Crops—depression behind shoulder. 35. Girth at heart. 36. Girth at flank. 37. Fore ribs. 38. Chine—between withers and loin. 39. False or floating ribs. 40. Belly. 41. Milk veins—branched and tortuous ducts running forward beneath the barrel. 42. Orifices through which the milk veins enter the abdominal walls. 43. Mid ribs. 44. Abdominal depth, indicating indigestion and constitution. 45. Tail head. 46. Pin bones. 47. Buttocks. 48. Escutcheon—covered with fine hair. 49. Twist—where hair turns on thigh. 50. Gaskin or lower thigh. 51. Brush. 52. Thigh. 53. Stifle. 54. Flank. 55. Udder. 56. Teats. 57. Hock. 58. Navel or umbilicus. 59. Dish. 60. Pelvic arch or sacrum—the arch bone between the loin and crupper.

ANIMAL MEASUREMENTS.

A. Width of forehead. B. Length of neck. C. Width of breast. D. Length from pin bones to shoulder point. E. Height at withers and hooks. F. Girth at gore, flank and navel. G. Length of barrel depression. H. Width at Hooks. K. Length of hind quarters. L. Circumference of udder.

Tennessee Experiment Station.

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Canadian Home Butter Making.

H. G. BELL.

One of the chief industries of Canada, especially of the older parts of the Dominion, is dairying. This industry is gaining popularity among Canadians, since, in manufacturing butter and selling it, the farmer carries on a profitable business with a minimum loss to his farm. It has been found by experiments along this line that stock farming, grain farming and selling of milk to cheese factories remove more of the plant food from the farm than the grazing of dairy cattle and the selling of their products as butter. During the last few years Canadian butter has been gaining great favor in the foreign market to such an extent that it is now a close rival of the renowned Danish butter. Many reasons could be cited for such an increase in demand, but chief among them stands the fact that our dairymen are producing a first-class article. This quality of our produce is the result of the use of improved machinery and careful handling in the factories. But by no means does all of Canada's best butter come from its factories. A vast amount of butter of superior quality comes from the home dairies. Considering the importance of this phase of the industry, a few points may be mentioned which have been found of great importance at the "Home Dairy" of the Ontario Agricultural College.

A great deal of discussion has been forthcoming over the question of the best temperature at which to ripen cream. In a series of experiments along this line, conducted here, temperatures ranging from 50 to 80 degrees F. have been used. Something over forty trials have already been made, and the conclusion arrived at was that a temperature of 65 degrees F. gave the best results. The butter maker's time, of course, is an important factor. If he wishes to do his work in a short time he may use temperatures from 70 to 80 degrees without seriously impairing the quality of his product, but, as a rule, a temperature of 65 degrees F. in winter and about 55 degrees in summer gives the best results. The maker of the first-prize butter at Toronto Industrial Exhibition this year, says he used a uniform temperature of 64 degrees F. at which to ripen his cream.

Another point of difference among buttermakers is the correct degree of acidity, or sourness, at which to ripen cream. Experiments along this line have been conducted at our dairy. It was found that cream from 4 to 6 per cent. acidity (measured by the acidimeter), or as the farmer who probably would not have this instrument at hand would say, medium sour cream, gave the best results. The butter from sweet cream lacks the pleasant taste and aroma of butter from ripened cream, while if the cream is allowed to become too sour a loss of butter fat will be occasioned. The prize-butter maker referred to above says, "The cream presented a nice satiny appearance, and had a pleasant acid flavor. It was then considered ready for churning." Experiments here lead to the conclusion that the degree af acidity or sourness may vary considerably without materially affecting the quality of the butter, but for good "keeping butter" it is best to have the cream about .6 to .7 per cent. acid, or medium sour.

Frequently in winter it is found very difficult to get the cream to ripen to the desired degree. Many Canadian farmers overcome this difficulty by the use of a culture. Most of the readers of this article will know that the ripening of cream depends on the growth of minute organisms or bacteria in the cream. Now, when cream will not ripen, it lacks a sufficient number of these little forms of life, or the ones that exist in it have been weakened by too low a temperature for growth and reproduction. Hence, in Canada a "starter," *i. e.*, a small quantity of these bacteria are sent out from the Bacteriological Department of this College, on application, and the recipient applies this to a quantity of milk, according to instructions. In this way he manufactures a culture. The use of these cultures has given the most satisfactory results to our butter makers. However, where this "starter" cannot be obtained, a home-made one may be substituted, made as follows: "Take a pint or two of sour cream from your previous churning, or the same amount of good-flavored skimmilk or buttermilk, and on adding this the ripening will be hastened." This culture, too, may be used as follows: Keep the cream sweet until twenty-four hours before churning. Heat it, then, to 65 degrees and add one pint of culture for every gallon of cream. Cool it then to churning temperature, and hold it at a uniform temperature till churning time. The observance of the facts gleaned from these experiments has done much to raise the quality of, and hence the demand for Canadian butter.

Ontario, Can.

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Stock Query.

Feeding Cow Pea Hay.—I wish some information in regard to feeding cow pea hay. In the first place, the farmers here did not mow their cow peas until they were full of ripe peas, unfavorable weather being the cause. Is it desirable to feed such hay to horses and cattle, especially horses, as one of my neighbors has one horse foundered and has lost another by bloat on account of the peas, we think, and he is a very careful feeder, too? Please advise what to do for the bloat if any of our stock should have it.

Bower, N. C. A. L. BREWER.

(*Reply by Prof. A. M. Soule.*)

There is no reason why cow pea hay of good quality should not be fed to horses and cattle in reasonable amounts. Any class of food will cause sickness and death among the live stock of the farm if fed in excessive amounts, especially if in a semi-green condition. For example, horses and cattle will frequently bloat on clover, though it is a well-known fact that they can be grazed indefinitely or fed on hay without injury if it is given to them in proper condition. The same is true of pea hay, which is a very rich nitrogenous food and does not form a well balanced ration for either cattle or horses if fed by itself. Horses should probably not have more than five or ten pounds of this food per day, depending on what they are doing, and cattle about the same amount. It will be more economical to feed it in connection with wheat straw, shredded corn stover, sorghum fodder, or any other cheap roughness that may be available on the farm. As a matter of fact, Tennessee mules are celebrated for their sleek coats and the fine quality of their hair. A Tennessee mule brings from $10 to $15 more when properly fattened than a mule produced almost anywhere else in the United States. This is due to the fact that the mule feeders of the State use pea hay in the amounts indicated when fattening their young stock, or for that matter, animals of any age. The pea hay is responsible for the beautiful coat. As this practice is general all over the State of Tennessee it is the only proof needed to show that pea hay can be fed with the greatest satisfaction to horses if not given in too large quantities. The difficulty with the mare that died was due to her getting too much food. You may think you know what she got, but that is impossible to judge without accurately measuring. Semi-green peas will sometimes produce death in hogs; in fact, they are almost certain to if these animals are hungry when turned on a pea field and they are allowed to gorge themselves. Bloat is not a difficult trouble to treat. According to Dr. Law it may be treated as follows. In a number of instances that have come to the attention of the writer it has been treated as suggested, and always with success. "In the first stages give stimulants and anti-ferments with active but not irritating purgatives to unload the stomach. A pound each of epsom and glauber salts, 2 ounces oil of turpentine, and one-half drachm of nux vomica will be a suitable dose, to be followed up by stimulants, and in seven hours, if no relief, by a second dose of the same strength. If drum-like resonance at the upper part of the left side shows the pressure of free gas, draw it off by puncturing, and dash cold water over the body to encourage contraction of the paunch. Give active stimulants every two or three hours. If there is no sign of improvement, but rather stupor and sinking, the only hope is in opening the stomach in the left side, enlarging the opening until the band can be introduced, having two assistants hold the edges of the wound in the stomach against those in the skin, taking out at least two-thirds of the contents of the paunch, sewing up the wound in the stomach with the edges turned in, and that in the skin, and keeping on a little gruel and soft mashes for a week. This operation can be performed standing, the right side of the animal applied against a stone wall, and the nose held by bull dog pincers or even by the fingers. It is usually succeeds if resorted to early enough."

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Early Tomatoes. — My attention has been called to the fact that in speaking of early tomatoes, in the issue of October 24th, I failed to mention Maule's Earliest. I confess that I had lost sight of this worthy variety. Some years ago, when I first tried this sort (then a "novelty") I found it early but not as smooth as I had hoped, and so for a year or two I discarded it and tried other sorts. About three years ago I gave it another trial, then without much expectations, and counting for earliest tomatoes more on the dwarf or upright sorts like Quarter Century, Early Champion and others of that class, and on strains of the old Ruby, etc., and finally on the newer Earliana. To my great surprise, Maule's Earliest, of which I then had only a dozen or two of plants, gave me not only the earliest specimens, but also quite good sized and smooth ones. I think I told of this in these columns at the time. I failed to take advantage of this discovery, however, and for two more years lost sight of Maule's Earliest. The original introducer insists that there is no variety known now that is earlier, or as early, and I cannot dispute this claim. Another year, however, I shall surely have this extra early tomato on my grounds again, and probably in larger numbers than at the last trial. Early tomatoes have always proved with me not only a most interesting and most satisfactory, but also a very profitable crop. My varieties for early will be Maule's, Earliana, Chalk's Early Gem.

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Current Comments.

Details of Hotbed Making.—A number of inquiries have been received about how to make and run a hotbed for plant growing. In a general way, I believe that a hotbed is but a makeshift for a greenhouse, and that the latter usually is more convenient, more certain of results, and therefore more satisfactory than a hotbed. In making and running the hotbed, we are more or less dependent on the weather. If the spring is late and cold, we are often forced to delay making the hotbed or starting our plants, until the most profitable time is past. Or, having started our plants early, a belated severe cold spell may put them in great danger, or make extraordinary pains and efforts necessary in order to save them. With a greenhouse, we are independent of the whims of weather and season. We simply keep the fires going, the house tight and the frost out. When you can't have a greenhouse, however, by all means make use of hotbeds, and make them as early as the weather will permit, and as snug and carefully protected as circumstances and the skill of the operator will permit. In respect to the details of hotbed making, I could hardly do better than quote the full directions given by Mr. Irving C. Smith at the summer meeting (in August) of the Wisconsin Horticultural Society. He says: "Select a location that has the full sunlight all day, and is protected from the severe winds. To build the frame, dig a trench as nearly east and west as possible, about one foot deep by seven feet wide, and of length to suit your needs or space. For the back, set cedar posts on the north side about 3½ to 4 feet apart and 2½ to 3 feet deep. Board with common or matched lumber from the top down, the top board 40 inches from the bottom and on a level line. Then nail a 6-inch strip over the boards 4 inches down from top, to carry the 2x4 cross-bars. The front side should be 14 inches lower than the back—that is, 26 inches high, with the strip to carry cross-bars 2 inches below the top. This gives a slope of 1 foot to the glass. The width of bed from inside of back to outside of front should be 71½ inches, measured on the incline, to suit a 6-foot sash. This allows half an inch projection to lift the sash, which is quite necessary in cold weather, as they are often frozen down solid on the front side. Fill in the outside to level of ground with sawdust or some coarse material, if at hand; if not, use earth. All this work must, of course, be done before winter. After our 25 years' experience, the writer prefers sash 6 feet long over all, with three rows of 9 or 10-inch glass. Have 2-inch rims all around, not the wide 6-inch piece at the bottom, as no plants will grow under it. This gives you sash 32 to 36 inches wide, which may be handled by one man, but cannot be so handled if they are much larger. Having gotten the frame ready in the fall, as mid-winter comes you must be prepared to plant. Get fresh horse manure with a moderate amount of bedding in it, either straw or sawdust, both preferred, and pile it up to heat. A small quantity of cow manure mixed in it is not objectionable. In two to six days it will be quite warm; then it is time to put it in the bed. Clean the empty bed of snow and ice and fill with about 16 inches of the warm manure, being careful to shake it up well, so as not to have it lumpy. Tread it in evenly, not too hard, or it will not heat properly, and not too loose or it will settle unevenly; go over it several times as it is being put in, so as to leave it in a springy condition, neither solid nor loose. Next comes the soil, which should be about 5 inches deep and very rich. Throw the frozen soil on the bed in chunks of convenient size and cover with quilts, which can be made of heavy unbleached muslin and about 7 pounds of cotton batting to a 7x9 quilt, tied with wrapping twine. The life of such a quilt, if sewed together with lap seams, is 10 to 15 years. A pole supported on posts is better for hanging these quilts on than a line, as the line will sag with the weight of the quilts. In three to five days the bed will be steaming freely and be ready for seed. Take the quilts off and remove a few sash at a time, to avoid loss of heat. Shake up the ground, rake finely and evenly, sow the seed, smooth over the rows to cover, press a little with a handled board, cover with sash and quilt, and seed is ready to grow. In three to five days the plants will begin to break ground, and great care must be taken to give them as much light as possible without exposing them to the cold. The temperature at the middle of the bed, with the thermometer bulb just off the ground and facing the sun, may range from 70 to 90 degrees in the daytime, with a morning temperature down to 40 or 50 degrees. To hold an even heat it is necessary to ventilate somewhat, even in cold weather, and to this end the sash can be drawn down a little from the top, but no cold draft should come in at the bottom side. Water may be given whenever plants need it, but in cold weather must only be given in the brightest part of the day, and should have a temperature of 100 degrees. The time required to grow large, fine plants for field setting varies from one to three months, according to the variety. Common vegetable plants require about four to six weeks."

The foregoing, given by Mr. Smith, is an excellent way of making the hotbed, although it may be varied to suit individual notions or particular local conditions, in many of the details. The chief point, however, seems to be in any case, that the bed be located in the most sheltered spot. A good deal can be done with a hotbed properly located and put up, and skillfully managed.

Trucking in North Carolina.—A private letter received from Prof. W. F. Massey, our Editor-in-chief, contains the following passage: "Our truckers have had a wonderfully successful season. The Irish potato crop was not as large as usual, but the price was fine. Cabbages paid well and cucumbers were about the most profitable crop after the winter lettuce. The strawberry growers made small fortunes. I met one old darkey who has 18 acres of land, all in strawberries. He told me that he got $4,000 cash out of his strawberry crop, and said, 'Boss, if dese fool niggers would only stop their foolishness and get a little piece of land dey would not get lynched.' And he was right, of course, for nothing helps a man, black or white, to be a good citizen as the owning of some land and having something at stake in the community." Our friend Massey is right. We have a large number of people in this vicinity (white with one exception) who own small farms (five to twenty or twenty-five acres) and make a good living by raising garden truck, especially strawberries and some tree fruits, like cherries, Bartlett pears, etc. Most of them pay more or less attention to poultry, besides. But this class of people make the best of citizens, and good neighbors. All our garden crops have been in good demand at high prices, and while the crops have not been overabundant, they have proved more remunerative than in many former seasons.

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Notes from a Carolina Garden.

Some years ago a Northern lady living in the mountain country of North Carolina wrote to me that she found it impossible to grow Irish potatoes fit to eat, while, in fact, there is no better potato growing section than the high, cool mountain country of this State. If this lady could have seen the potatoes I had mashed on my table today, of the second crop, grown from potatoes that were raised last spring, I think that even she would have admitted that they were not only fit to eat, but very fine. I asked the good wife if they were not old potatoes. She said no, that they were dug from the garden just before time to cook for dinner. Well ripened potatoes, fit for mashing, dug from potatoes planted the last of August, are not bad this ninth of November. And there are more yet to dig. I was rather amused at the old darkey who dug the potatoes. He found that the old potatoes were still sound and he put them back carefully in the furrows and covered them, saying that they would make another crop in the spring, which I doubt.

The frost has taken the leaves off the figs and we will now tie them up with pine bushes around them as a protection, for the early frost seems to promise a cold winter. They had no protection last winter and bore a heavy crop, but if the winter should prove unusually cold they may get nipped, and a little protection will do no harm. If they were smaller I would bend the branches to the ground and cover with pine boughs, but this cannot be done on account of the size of the trees. The new ones sent me from Washington last spring will be wrapped in gunny sacks, as they are small.

LET YOUR STOMACH HAVE ITS OWN WAY.

Do Not Try to Drive and Force it to Work When it is Not Able or You Will Suffer All the More.

You cannot treat your stomach as some men treat a balky horse; force, drive or even starve it into doing work at which it rebels. The stomach is a patient and faithful servant and will stand much abuse and ill treatment before it "balks," but when it does you had better go slow with it and not attempt to make it work. Some people have the mistaken idea that they can make their stomachs work by starving themselves. They might cure the stomach that way, but it would take so long that they would have no use for a stomach when they got through. The sensible way out of the difficulty is to let the stomach rest if it wants to and employ a substitute to do its work.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Transplanting Huckleberries.

Among the fruits listed by nurserymen one looks in vain for the huckleberry, though in some lists it is carried under the shrub class. It is a fruit often asked for, and I am often asked where it can be obtained. It is strange that nurserymen do not add this to their list of fruits. Because those looking for it in catalogues rarely find it included in the lists offered, an impression is prevalent that the huckleberry is hard to transplant. Nothing is further from the fact. There is no more trouble in getting it to live than any other shrub. In my own case, I have frequently had under notice hundreds of the common sort, taken direct from the woods, transplanted, and hardly one fail to grow. The proper course is to cut them down about half way, perhaps more if roots are few, hammer the soil in firmly about the roots, and then look for success.

There are two sorts, quite distinct in their habit of growth and character of fruit, the huckleberry of the woods and the one of the swamps, or at least, of low ground. Of those in the woods there are several varieties, but they all require like treatment. The one in the swamps has larger growth and larger fruit, and though found in damp ground does very well in ordinary garden soil. This one is called Vaccinium Corymbosum. Besides that its fruit is so good, its pretty flowers in spring and its scarlet colored foliage in the fall add much to its merits. This one is frequently called for by landscape gardeners, who plant it for its ornamental features. To many of our readers in far-off places the huckleberry brings back recollections of bygone days, and they should call on their nurserymen to bestir themselves to add this fruit to their lists. There are plenty of plants in the woods of Middle and Southern States.

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A notice on page 344 will interest everybody whose subscription expires next January.

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Horticultural Queries.

Grape Query.—Will you please inform me what is best soil for grapes. We have quite a number of vines and they are full of fruit each year but before they are ripe they fall off and do not mature; never get the right color, and are hard. They are Concords and Moore's Early. MRS. S. J. LEE.
Lawrence, Kan.

Grape vines are not particular as to situation provided it is a well drained one. They do not like a moist, cold situation. When in a favorable place they do not object to lots of food. Just what may cause the falling of the berries it is hard to say. It may be the soil is too rich and underdrained. Cease applying manure, and dress the ground with lime, about an inch thick, forking it in lightly. Do it now or early in the spring.

Scale.—I have an orchard which is, from all appearance, dying. I enclose a sample of them. It can be easily scraped off with the nail. Is it a good time to replace trees now before freezing weather?
Shiloh, N. J. MRS. LILLIE B. DAVIS.

There was no sample in your letter. The envelope was torn at one end and the twig, which I suppose is what you sent, was missing. It is very likely you have San Jose scale; in fact, more than likely. Send me another twig. Should it be this the case must be a bad one with the trees dying as you say they are. You had better defer planting more trees until you are sure what ails those you already have.

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Horticultural Notes.

A Good Trio.—The Practical Farmer and Green's Fruit Grower, both for one year, and The Practical Farmer Almanac, will all be sent for only $1.10, the best offer of the year. These three publications will be of daily practical use to every horticulturist and gardener.

Climbing Rose. — Correspondents who ask for an everblooming hardy climbing rose should obtain Glorie de Dijon. From Philadelphia southward it is quite hardy. The writer has a nice one planted ten years ago still in fine condition. It is cream flesh in color, and its fragrance is delicious.

Puddling Tree Roots. — Nurserymen have found the puddling of the roots of trees in mud before shipping them of such great importance in preserving the trees fresh that in some establishments the puddling pool is a necessary adjunct of the packing shed. This should afford a valuable hint to all that have to plant trees.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Queries Answered.

Capons for Profit.—A number of people have recently asked about the capon industry, and whether it would pay them to operate on their cockerels or not. We know it pays, and often pays well. "Profitable Poultry Keeping" states that Mr. Curtiss, of Massachusetts, an expert in this line, is said to caponize all his cockerels whether he grows them for capons or soft roasters, or simply as market chickens. In this shape the males at any age are just as delicate as are the pullets, and quite as easy to yard, house, or care for in any way, and may be sold at any time and in any market that demands them at the highest price. We do not uphold the claim that capons grow much larger and heavier than roosters of the same age. The Rhode Island Station has found some little increase. We know that the gain in weight is but slight. But the capons are plumper, fatter, while the gain is mostly in the quality of the meat, a larger proportion of meat to the offal, and surely in the increased selling price per pound. We quote from the book as follows:

"The most profitable market for capons comes during February and March; at this time June or July hatched chickens will be nine months or over in age, and from then till spring comes, the capons sell the best. There is a limited demand for them as capons at the higher prices, but they will at all times sell for the highest price paid for poultry at the time they are sold. For this reason, those who gain the most profit from market poultry prefer to caponize all their young cockerels."

Points in Turkey Raising.—A reader tells about his want of success in raising turkeys, and wonders what the cause is of his bad luck, when turkeys are reported to be so very hardy. The turkey is a very rugged bird; can stand exposure and hardships as much as any other bird, but it cannot stand the injudicious treatment, especially in the way of feeding, that is so often given to the young and then still tender chicks. A reader in Agriculturist, gives the following points on raising turkeys:

"Have your stock of turkeys on the place by the middle or last of January. Never have hens and gobblers of the same flock; make a change so they will not be all related. Inbreeding is the cause of lameness and puny turks. As turkeys are shy and apt to hide, keep watch of them sufficiently to make them select their nests near the house or in some retired clump of bushes. Let them lay and sit on the ground. Take care of the eggs and handle them carefully; turn from one end to the other every few days. Set 17 to 21 eggs under a turkey hen and if there are any left set them under a chicken hen at the same time. Let the turkey hen have all that are hatched at once, but do not mix them, for if there is one or two weeks' difference in their ages the older ones will run over the younger ones. Place the young turkeys with their mothers in a quiet place near the old nest. Feed them with curds or bread soaked in milk. Season the food with black pepper once a day at least. They will not eat much the first day. Feed four or five times a day. Let everything be quiet and let them go. Keep other fowls away from them. Give them plenty of range, as they will not bear confinement. They are the easiest poultry raised and will pay for themselves in bugs destroyed. In the fall feed whole grains and change as for other fowls."

In the above quotation not enough attention seems to be paid to the point of feeding. It is in this item that most people who attempt to raise turkeys, fail. Too many people yet attempt to bring up the little turks on a diet consisting largely of corn meal. This is the great mistake. The little things can't stand much corn meal. In an earlier issue we spoke of our "chicken cake," consisting of bran, middlings, corn meal, meat meal, etc., mixed up with milk and baked like bread or cake, then crumbled up and fed freely. This seems to fill the bill. Sometimes a flock running with the old hen in the meadows and woods, where they find plenty of bugs, grasshoppers, etc., and possibly beechnuts, chestnuts, etc., in the fall, will grow up in free range, without ever coming to the house for feed until the old bird brings the flock home when cold weather with snow storms sets in, will thrive, and even do better than the birds brought up around house or yards.

◆

Every friend of The Practical Farmer whose subscription expires in January should fill up the subscription blank enclosed in this number, put in a dollar, and return it to this office.

◆

Pointed Poultry Paragraphs.

Are the Pullets beginning to lay? If not, why not?

For Winter Pasture what better could our fowls ask for than a patch of rye near the poultry houses?

One is not Likely to be too particular about keeping the nests clean.

For a Hundred fowls a house sixteen feet wide and fifty feet long, divided into four or five sections, would give ample accommodation.

No Doubt About fresh cut bone being good for all kinds of fowls. But if you can't have it, conveniently, a good brand of commercial meat meal (animal meal) will do very well as a substitute.

Gather Them In! It is time for the chicks that have acquired the habit of roosting out doors to be brought in. By coaxing and driving them, for a few nights, you can soon get them to enter the hen house at night.

Cost of Fattening Chickens.—In experiments in fattening chickens, made recently on one of the Canadian experiment farms, the cost of producing one pound of increase of live weight ranged from 3.7 to 4.7 cents. The cheapest flesh production was obtained with the Light Brahma-Plymouth Rock cross at 3.7 cents per pound.

According to Recent Reports, chickens have been hatched from eggs preserved for twelve months in a ten per cent. solution of waterglass or silicate of soda. Before commenting on this wonderful result, we would prefer to make some trials of our own to settle the question in our mind whether this is really a fact or not. We happen to think of the "mummy wheat" fake.

Free to Our Readers.

For many years we have advocated the use of cut green bone for poultry. To spread information on this subject we have arranged with the manufacturers of the Latest Model bone cutter to send their new book, "The Paying Hen," free to inquirers who mention this paper. It's full of practical information on the subject. The manufacturers also write us that they will send one of their Latest Model bone cutters for ten days free trial, with a guarantee that it does better work and does it easier and faster than any other bone cutter. If you are not satisfied you may return it at their expense. The machine is a good one—easy-running and durable; it is used all over the world and the latest model embodies many improvements which add greatly to its convenience and ease of operation. Write to F. W. Mann & Co., Box 14, Milford, Mass.; tell them you are one of our readers and the book will reach you in a few days.

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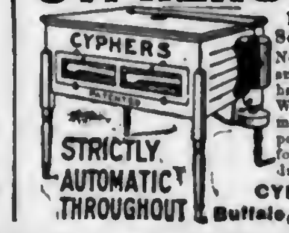

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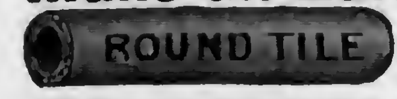

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PROF. W. F. MASSEY, Editor.

Philadelphia, November 28, 1903

Our friends will find in this number a subscription blank that we hope they will fill up and return as soon as they read this paragraph. A dollar sent for your renewal subscription before December 1st not only pays for your subscription to The Practical Farmer for another year, but will also bring you a copy of The Practical Farmer Almanac for 1904, which should be in the home of every reader of our paper.

◆

The efforts being made at some of the Western Experiment Stations to develop a higher protein content in Indian corn are all right for the North and West. But for the South the more carbohydrates the corn contributes the better. The South has an abundance of protein in plants and needs the corn for what it is, the best carbonaceous food grown.

◆

Now that the field work is finished we cannot too often impress on the farming community the importance of taking care of the expensive machinery and tools used in farm work. Even where the tools are housed, they are too often put away with the earth sticking to them, and grease and dust gumming up many parts to harden and injure them. Clean every tool before housing it, and rub the smooth metal surfaces with oil, and see that every tool that will be needed in the spring is in order when put away, so that no time will be lost in the hurry of spring work in running after parts and bolts that should be in place long before the implement is needed. Now is the time to take the one stitch that saves nine in the spring.

◆

What a lot of stuff some papers print in order to fill up a big paper. We picked up a farm paper the other day in which one of the stated contributors tells how he went fishing and never got a nibble, and that the friends with him had the same luck. Then he had a tooth pulled and wished that teeth would not ache. And he liked to feed ear corn to horses because the rats are on the rampage and the horses cannot pick out the litter. Then he finds that some people are too stingy to buy flowers, but beg them from him. He saw a load of pure yellow corn on the road and it looked nice. And then he found a man who had lived in one town for forty years, and did not expect to go further from it than to the cemetery. All this sort of wisdom, we suppose, is intended to help the farmers who read the paper, but we cannot see where the help comes in. What a farmer wants in a farm paper is information in regard to his calling and help in performing his work. He can find all the idle chatter he wants in other papers, and it is no sort of interest to him to know that the man who writes for the farm paper went fishing or that he had the toothache, or whether he lets the rats eat his corn up. He wants to know what the paper can tell him about improving his corn crop and making his land more productive in an economical and practical manner.

◆

Some Wonderful Jonquils.

There is always something amusing to a horticulturist in the efforts of the ordinary reporter or literary man to write about garden matters. In a late number of Harper's Weekly is a beautifully illustrated article on Mrs. Deland, the author of "Old Chester Tales," with a beautiful portrait of the lady and some illustrations of her home. But our amusement comes from the following sentence. Speaking of Mrs. Deland's love for her garden, and her working therein, it is said that "The jonquils which are seen in the picture below are her special pride." Now, the "picture below" shows a lady standing by a group of tall hollyhocks, and not a jonquil in sight, as of course, there would not be when hollyhocks are in bloom. Talk about teaching nature studies in the public schools. There is a great need for a school of horticulture for journalists who do not know the difference between hollyhocks and jonquils.

◆

Why Worry About Other People's Troubles?

We received a long circular letter from the branch office of the "Association of Manufacturers and Distributors of Food Products" in Rochester, N. Y., giving a quotation from a bulletin published by the State Food Commissioner of North Dakota, who certified that he had found formaldehyde and sulphites in samples of canned goods he examined, and stated that they must have been used by the canners or on the fruit before canning. The Canners' Association are, therefore, troubled lest the public may get the idea that the fruit growers are using preservatives on their fruit, and sends out this circular as a warning to the fruit growers that they are in danger, "As nobody uses formaldehyde *or any other preservative in canned goods*," and if the chemist finds them, they must have been put in in the laboratory or by the growers on the fruit. Now, North Dakota is not the only place where preservatives have been found in canned goods, and it is well known to the chemists who have been examining these things, that preservatives are always found in some brands and none in other brands. That growers should spray fruit with preservatives is too nonsensical to discuss. If the preservatives are found in the canned goods they are put there in the process of canning. If the manufacturers of canned goods will avoid the use of preservatives they need not worry about the fruit growers using them, and their present anxiety looks to a man up a tree as an effort to throw somebody off a scent. We would like the Association to say who puts salicylic acid in some canned goods if the canner does not do it, for it is uniformly in some brands. If nobody ever put any preservative into canned goods the chemists would not find them there, while the fact is that they are often found there, and no amount of anxiety for the fruit growers will clear the skirts of some canners. We agree with this Association that we ought to have a national pure food law that would cause as rigid an inspection of home products as is now given imported ones, but there is no reason to suspect that the analyses of State officers are in any respect more incorrect than that of National inspectors would be. The chemist finds the preservatives and says that someone must have put them there, and at once the canners cry out to the growers that there is an attack on the fruit industry, and that people will get in the notion that the fruit growers are poisoning their fruit before selling it to the poor canners. No, gentlemen, you cannot set us to barking up the wrong tree. If nobody puts any preservatives in canned goods the chemist will never find them there.

◆

Some Queer Ideas.

The Ohio Farmer quotes from a Chicago paper a series of statements attributed to Prof. Hopkins of the Illinois Station. The Ohio Farmer does not seem inclined to believe that Prof. Hopkins is responsible for these queer ideas as a whole, and on this point we agree with them until Prof. Hopkins has a chance to affirm or deny what he is credited with saying. The following are the propositions which the Chicago paper says were laid down by Prof. Hopkins:

1. "Much of the nitrogenous fertilizer now purchased by farmers is not worth the freight it costs." To this we would say that so far as we have been able to observe there is now very little cheating in the nitrogen carrying materials in fertilizers, the nitrogen being largely derived from dried blood, tankage, cotton seed meal and other good materials, and if there are any cases where leather scraps and other useless carriers of nitrogen are used it must be where the fertilizer laws are loose and loosely enforced. 2. "Investment in acid phosphate is so much money thrown away." This might be true if the soil on which it is applied has already an abundant store of phosphoric acid, and such soils are exceedingly scarce in this country. In fact, acid phosphate is the cheapest form in which to buy phosphoric acid, and phosphoric acid is more generally deficient in our old cultivated soils than anything else. In our experience there is no form of plant food on the market that pays better for the price it costs than acid phosphate.

3. "That an abundant supply of nitrogen may be secured from the atmosphere by the agency of such legumes as clover and cow peas." To which we say, Amen. For the ordinary crops of a grain farm, where a due amount of stock is kept, and a good short rotation practiced, there will never be any need for the purchase of nitrogen in any form.

4. "That such a supply of nitrogen need not cost more than a cent a pound." It need not cost anything at all. In fact, the growing and feeding of the nitrogen collecting crops should show a profit independent of the amount of nitrogen fixed in the soil. The Ohio Farmer seems to think that the nitrogen fixed in the soil should be charged with the cost of seed and the production of the crop, when in fact any good farmer should be able to feed these crops at a profit, and leave the nitrogen in the soil from the roots and the manure returned as so much clear gain. In other words, a farmer can make a profitable market for the hay by feeding it to stock and get back the greater part of the nitrogen it contained in the droppings, and what nitrogen is fixed in the soil with the roots has cost nothing at all. It may be harder to do this in Northern Ohio than a warmer climate. It can certainly be easily done in the South.

5. "That such tonics as gypsum can only be applied with harmful results." We do not believe that Prof. Hopkins said anything of the sort. He may have said that the injudicious use of plaster or gypsum, with the notion that it is manure, will finally result in damage to the soil from the loss of potash. In fact, there are soils all over the country on which plaster has not the slightest effect, either injurious or beneficial.

6. "That in untreated rock phosphate the farmer has an abundant supply of potassium." Our Ohio friend must certainly have made a misprint here of potassium for phosphoric acid, for Prof. Hopkins knows full well that the phosphate rock furnishes no potash. That a farmer can get plenty of phosphoric acid in untreated phosphate rock finely pulverized is true, provided he can afford to wait for it to become available in the soil. As a rule, he had always better buy the acid phosphate.

7. "That steamed bone meal is the best fertilizer in which money can be invested." There, to use a crude phrase, is the "nigger in the woodpile." It is from a Chicago paper, and Chicago trade interests are largely involved in steamed bone. What one gets from steamed bone is phosphoric acid, and in a far less available form than in acid phosphate, which the second proposition says is a waste of money to buy. Now, one per cent. of available phosphoric acid in phosphate in the rock is worth just as much as one per cent. of available phosphoric acid in the bone meal, and it can be bought in most parts of the country for less money.

8. "That grain farming exclusively without depletion of fertility is possible by the agency of legumes and a liberal use of rock phosphate." We have no objection to this statement, if in place of rock phosphate we insert acid phosphate and a due percentage of potash for many soils. Soils can be kept up and improved in this way, but it will be far more profitable to save and feed the legumes and use the resulting manure on the land instead of losing the food value of the crops by using them for manure direct, a very expensive method of improvement.

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CONTENTS

AGRICULTURAL.—How Much We Have to be Thankful for.—Health Hints.—Summer Air in all its Purity in the Home all Winter. 337
QUERIES.—Hulling Walnuts.—Plowing.—Keeping Sweet Potatoes for Seed.—Agricultural Course.—Fencing a Goat Pasture.—Chufas for Hogs.—Lime, Sulphur and Salt Mixture. 338
Fine Alfalfa.—Cow Peas to Run on Corn.—Plowing Steep Lands.—Apples in N. C.—Grass for Name.—Maryland and Virginia Lands. 339
LIVE STOCK AND DAIRY.—A Standard for Beef Cattle. 340
Canadian Home Butter Making.—Stock Query.—Feeding Cow Pea Hay. 341
GARDEN.—Talks on Timely Topics.—Early Tomatoes.—Current Comments.—Details of Hotbed Making.—Trucking in North Carolina.—Notes from a Carolina Garden. 342
HORTICULTURAL.—Transplanting Huckleberries. — Horticultural Queries. — Grape Query. — Scale.—Horticultural Notes 343
POULTRY.—Queries Answered.—Capons for Profit.—Points in Turkey Raising.—Pointed Poultry Paragraphs. 343
EDITORIAL.—Some Wonderful Jonquils.—Why Worry About Other People's Troubles?—Some Queer Ideas. 344
COMMERCIAL. 345
HOME CIRCLE. — Editorial Chat.—Gracious Giving. 346
The Labor Question.—Originality.—A Young Girl's Needs and Accomplishments. 347
OUR EXPERIENCE POOL.—Topic No. 000.—Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure? 348
SHORT CUTS BY P. F. SUBS.—Hauling Corn Fodder Before Husking.—Salt Needed.—Make the Children Contented.—How to Have Good Seed Corn. — Horse for Cutting Corn Stalks.—A Good Husking Pin.—A Tree Root Protector.—Pulling Posts.—For Tying Corn Shocks.—Cheap Tire Tightener.—Portable Sorting Table for Apples.—Handy Picking Bag.—Fresh Corn Meal Early.—Slippery Elm Cure.—Apple Butter.—To Keep Tap Tight on Wagon Tongue Rod. 349
MISTAKES, FAILURES AND SUCCESSES.—Time to Take off Honey.—Melons, Sunflowers and Peas.—Plant Shade Trees. — Cabbage Worms.—Grit for Poultry.—Change the Garden Plat.—Using Postage.—Stump Pulling.—Millet with Potatoes.—Protection for Flower Beds.—No Ice.—Convenient Hog Pens.—Laying Felt Roofing. 350
POSTAL CARD CORRESPONDENCE. 351

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No. 2, Penna. and Del.....	85¾	@	86
No. 3 red	79¾	@	80
CORN.—			
No. 2, mixed	47½	@	48
No. 2, yellow	53		
No. 3	45½	@	46
OATS.—			
No. 2, white natural.......	40	@	40½
No. 2, white clipped.......	41	@	41½
LIVE POULTRY.—			
Fowls, hens, per lb........	11	@	12½
Roosters, per lb.	8		
Spring chickens, per lb.....	10½	@	12
Ducks, per lb.	11	@	12
Geese, per lb.	11	@	12
Turkeys, per lb.	15	@	16
DRESSED POULTRY.—			
FRESH KILLED.			
Fowls, choice, per lb.......	14	@	15
Chickens, nearby, per lb....	12½	@	14
Western, d. p., fancy, lb..	13	@	13½
Spring turkeys, fancy, lb..	19	@	20
West. spring turkeys, per lb.	18	@	19
West. spring ducks, per lb..	12	@	14
West. old ducks, per lb.....	11		
BUTTER.—			
West. creamery 1sts to extra	21	@	23
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	23	@	24
Prints, Western	19	@	23
Imitation creamery	16	@	18
EGGS.—			
QUOTATIONS—M, mark; L, loss off.			
Nearby 1st, ret'bl crates, L	32		
Western 1sts, free cases..L	31		
So. West., 1sts, free cases, L	29	@	30
So. choice, free cases.....L	27	@	28
Refrigerator, firsts	23½	@	24
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	11¾	@	12
Fair to good	10¾	@	11½
State, part skims, prime....	8½	@	10
Domestic Swiss, No. 1......	13		
Domestic Swiss, No. 2.....	10	@	12
GREEN FRUITS.—			
Oranges, Fla., bright, box..	2.25	@	3.00
Oranges, Fla., russets, box.	2.00	@	2.50
Grapes—			
N. Y. Concord, 4-lb. bas..	16	@	17
N. Y. Catawba, 4-lb. bas..	13	@	16
Niagara, 4-lb. bas.......	19	@	20
Cranberries—			
Cape Cod, large late, bbl.	7.00	@	8.50
Cape Cod, early Bl., bbl..	6.50	@	7.00
Cape Cod, early Bl., crate	2.25	@	2.50
APPLES AND PEARS.—			
Apples—			
N. Y. Snow, per bbl.....	3.00	@	3.50
Kings, per bbl.	3.00	@	3.50
Pippins, per bbl.	1.75	@	2.50
Greenings, per bbl.	2.00	@	2.50
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl..	2.25	@	2.75
Pears, Kiefer, per bbl.....	1.50	@	2.50
POTATOES.—			
White, Pa., choice, per bu..	65	@	68
White, N. Y., choice, per bu.	63	@	65
Fair to good	58	@	60
Sweets, Jersey, prime, bas..	30	@	50
VEGETABLES.—			
Onions, Western, per bu....	55	@	60
Cabbage, N. Y., per ton.....	15.00	@	16.00
Cauliflower, L. I., per bbl...	1.50	@	2.50
Cucumbers, Fla., per bu....	2.00	@	3.00
Eggplants, Fla., ½-bbl. crate	3.00	@	3.50
String beans, Fla., 1-3-bbl. bas	2.00	@	2.75
Lettuce, N. C., 1-3-bbl. bas..	1.50	@	2.50
BEANS AND PEAS.—			
Beans, mar., H. P., 1903, bu.	2.70	@	2.85
do mediums, H.P., 1903..	2.20		
Pea beans, H. P., 1903, bu..	1.95	@	2.10
COTTON.—			
Cotton, per 100 lbs.	11.35		
FEED.—			
Bran, bulk, winter, per ton.	19.00	@	19.50
Bran, sacked, spring.......	19.00	@	19.50
HAY AND STRAW.—			
Timothy, No. 1, large	16.00	@	16.50
Timothy, No. 1, small......	15.50	@	16.00
Timothy, mixed..........	12.50	@	14.00
Clover, No. 1	12.00	@	12.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.			
Best steers	4¾	@	5¼
Good steers	4¼	@	4½
Medium steers	3¾	@	4
Common steers........	3¼	@	3½
Veal calves active.			
Extra calves	8	@	8¾
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4
Hogs lower.			
Fat hogs, Pa., Del. & Md...	5½	@	6½
Fat hogs, Western	7.	@	7½
Sheep and lambs about steady.			
Sheep, extra	4	@	4¼
Sheep, good	3½	@	3¾
Sheep, medium	3	@	3¼
Sheep, common	2	@	2¼
Lambs	4	@	6

New York, Nov. 21, 1903.

WHEAT.—			
No. 2, red........	86⅜	@	87⅜
May	82⅞	@	83⅜
CORN.—			
No. 2, yellow	52⅜		
No. 2, white	50⅜		
OATS.—			
No. 2	43		
Standard white	42½		
No. 2, mixed	41½		
HAY AND STRAW.—			
Timothy, new, per cwt.....	90		
Timothy, No. 1	85	@	87½
Clover	55	@	62½
Straw, long rye, per cwt...	95	@	1.05
HOPS.—			
New York State, 1903, lb..	24	@	32
Pacific Coast, 1903, per lb..	21	@	29
German, 1903, per lb......	55	@	65
BUTTER.—			
Extra creamery	23		
West. extra factory	15		
State dairy	15	@	20
Packing stock	12½	@	14
Imitation	15	@	18
CHEESE.—			
State, f. c., small, fancy....	11¾		
Good to prime	10¼	@	10½
Large colored, fancy	11¾		
Light skims	7½	@	9
Full skims	1½	@	2
EGGS.—			
QUOTATIONS AT MARK.			
Nearby fancy, selected	38	@	42
State & Pa., fancy	33		
State & Pa., seconds	28	@	32
Western extras	33		
Refrigerator	21	@	24
LIVE POULTRY.—			
Chickens, per lb.	13		
Fowls, per lb.	12	@	13
Roosters, per lb.	8½		
Turkeys, per lb.	14		
DRESSED POULTRY.—			
Turkeys, fancy, d. p., lb...	21	@	22
Scalded, per lb..........	20		
Old, mixed, per lb.......	17	@	18
Broilers—			
Phila., fancy, large, lb...	21	@	23
Western, d. p., per lb....	17	@	18
Fowls—			
Ohio & Mich., scalded, lb.	11½	@	12
West., d. p., av. best, lb..	11½	@	12
Chickens, Phila. fancy, lb..	17	@	18
State and Pa., fancy, lb..	14	@	15
State and Pa., poor, lb...	10	@	11
Spring ducks, nearby, lb....	17	@	18
Western, per lb.	15	@	16
Inferior, per lb.	12		
Spring geese, Eastern, lb...	17	@	18
Squabs, per doz.	1.75	@	3.00
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl......	2.00	@	2.75
Spitzenberg, per bbl.	2.50	@	4.50
King, per bbl.	2.50	@	4.00
Greening, per bbl.	1.50	@	2.50
Tallman Sweet, per bbl..	1.50	@	2.00
York Imperial, per bbl...	2.00	@	3.00
Hubbardston, per bbl....	1.75	@	2.50
Pears—			
Common, per bbl.	1.50	@	2.50
Bartlett, per bbl........	3.00	@	6.50
Buerre d'Anjou, per bbl..	2.00	@	3.50
Seckel, per bbl.	4.00	@	8.00
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, 4-lb. bas..	12	@	20
N. Y. Concord, 4-lb. bas..	12	@	16
N. Y. Catawba, 4-lb bas..	14	@	17
Up-river, crate, Concord..	75	@	1.00
Wine grapes, black, ton....	50.00	@	55.00
Quinces, per bbl.	3.00	@	6.00
Cranberries—			
Cape Cod, bbl.	6.50	@	8.50
Cape Cod, crate.........	2.00	@	2.35
New Jersey, bbl.	6.25	@	7.00
New Jersey, crate	1.90	@	2.10
POTATOES.—			
L. I., per bbl.	1.75	@	2.25
Jersey, per bbl.	1.62	@	2.00
N. Y. and Maine, per sack..	1.70	@	1.90
Sweet potatoes, Jer., per bbl.	1.50	@	3.00
Southern, per bbl.......	1.00	@	1.50
VEGETABLES.—			
Carrots, per bbl.	75	@	1.25
Cabbage, domestic, per ton..	9.00	@	12.00
Tomatoes, Fla., per carrier.	1.50	@	3.00
Tomatoes, Cal., flat cases...	2.00	@	2.75
String beans, Char., per bas.	1.50	@	3.50
Squash, Hubbard, per bbl...	1.00	@	1.25
Cucumbers, Fla., per bas...	1.00	@	2.25
Cauliflower, per bbl........	1.00	@	4.00
Celery, per doz..........	10	@	40
Eggplants, per box.......	2.00	@	3.50
Lettuce, Boston, per doz...	25	@	50
Lettuce, New Orleans, bbl..	4.00	@	6.00
Onions, white, per bbl......	2.00	@	5.00
Red, per 150 lbs.	1.50	@	1.75
Yellow, per bbl.	1.25	@	2.25
Peas, Norfolk, per basket...	50	@	1.25
Pumpkins, per bbl.........	50	@	1.00
Spinach, per bbl.	75	@	1.25
Turnips, per bbl.	75	@	1.00
BEANS AND PEAS.—			
Beans—			
Marrow, 1903, choice, bu.	2.95		
Medium 1903, choice, bu.	2.17		
Pea, 1903, choice, per bu.	2.10	@	2.12
Lima, California	2.25		
Green Peas—			
Scotch, 1903, bags, per bu.	1.25	@	1.27

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Our prize contest ending Oct. 22nd is notable more for quality than quantity. An unusually high order of contributions was submitted. The prize winners are Mrs. L. D. Mays, Oklahoma; Tilea E. Huff, Georgia; H. L. Reynolds, Tennessee; Leota Fairfield Williams, Tennessee; Mrs. Maggie Adams, Texas.

* * * * * * * *

We wish that we might have many letters for Correspondence Column during the coming weeks. This is the farmer's time to read and write. Surely every man, woman and child among you have in store something that would amuse, interest or benefit somebody. Don't be selfish or indifferent. "Freely ye have received, freely give."

* * * * * * * *

This may be an opening for you to lay up for yourself treasure in Heaven. "A word fitly spoken," you know. If each of us knew that this winter would furnish our last opportunity for doing some good with our pen, how eagerly we would seize it for we do not believe there is one member of our Circle but wants to help make the world brighter and better. If you have a helpful thought—"Pass it on."

* * * * * * * *

We wonder how many Practical Farmer folks have taken advantage of that offer which the Business Management made, to send a copy of The Practical Farmer Almanac free to every subscriber who sent a dollar previous to Dec. 1st for their renewal subscription. We have not seen a copy of the Almanac (it will not be published until about Jan. 1st), but nothing that the Practical Farmer does is below par, and so we have no hesitancy in saying that every subscriber ought to have a copy of it. It costs you nothing, for of course every present subscriber wants to be with us next year.

We are considerably interested in the advertisement of the Kalamazoo Stove Co., which has been running in this Department. We have fallen in love with that range, and when they say there is not a better range made at any price, from its looks we feel like saying amen. The company says it will pay to investigate, and we second the motion. Write for catalogue No. 194 to the Kalamazoo Stove Co., Kalamazoo, Mich.

Prize Article.

Gracious Giving.

MRS. L. D. MAYS.

With the approach of cold weather many of us begin to plan for the yule tide season, and to some Christmas is a veritable bugbear, on account of so many presents having to be bought or prepared. It is as serious as the "What shall I have for dinner" question, and, with a light purse, no wonder so many dread the gift giving time. How much better to make a few simple presents and give them in a charming manner than to regard it as a business obligation. Since you were given something last year, you must repay it this year, and it must be of equal value.

We have smiled incredulously at the story of the woman who gave her city friend a basket of apples, saying, "You can have all you want, the hogs won't eat them," implying that the apples were of no value or the friend would not have received them. The want of tact robbed the present of its value, for apples were a treat to the one, a surfeit to the other; but, like children, we care less for a thing no one wants. Have some of you ever been given slightly worn clothing, denuded of every button? And was it not provoking? My neighbor one day showed me such a box full, and a hearty laugh we had over it, too. We armed ourselves with the necessary implements and sewed buttons on then and there.

"Of course," she said, "Aunt Jennie saved perhaps five cents' worth of buttons and she is only worth fifty thousand dollars, so they may come in handy to the poor woman some day."

The little dresses were scarcely worn, and I knew the busy mother was glad to get them already made. But why that petty economy in cutting off the buttons? It spoiled the gift in my eyes.

Let individuality stand for your home-made presents. If you do Battenberg, a 'kerchief or tie, or shirt waist set, cannot be improved upon. Or if you excel in tatting, dozens of pretty things can be made of it. Drawn thread or knitted lace or crocheted doilies, in fact, there are things innumerable to be made at spare times throughout the fall and early winter afternoons. One invalid mother I know, has, for the past few years, knitted a bed spread of white carpet chain, with lace a foot wide for the border, for each of her children—sons and daughters alike. It takes about a year to make one, though she makes other fancy work to rest herself occasionally. But each child has received his or her spread but the youngest, and her's will be ready for her this year. The spreads are the most beautiful things imaginable; will last forever, and to those children will be priceless heirlooms. The cost is practically nothing, but the time with her is never wasted.

A walk in the woods suggests many pretty things that could be utilized for Christmas. Acorn cups, or acorn pendants for a silk banner, gilded or plain. Suppose your Uncle John and family live in the city, as mine do, and every once in a while sends down a box of finery, books and magazines, mostly only a bit the worse for their usage; and given with remembrance of long winter evenings on the farm. Now, they have plenty of costly gifts each season, so do try and send them some of the things that money cannot buy, and see if they do not prize them highly.

If you, or a friend, have a kodak, visit the "Old Swimming Hole," "The Red School House," "Jones' Cider Mill," and dozens of other resorts that make a delightful book of views of "ye olden times." If you cannot get the views, visit the old shellbark hickory for the same kind of nuts Uncle John used to cheat the squirrels of. Then put in butternuts and hazelnuts and a top layer in the box of rosy apples off his favorite "Milam" tree. Ah me, a whiff of their fragrance causes the worries of even Wall Street to vanish, and once more he is "Mother's little freckle faced lad," who could eat nuts and apples galore without a fear of appendicitis—indeed, he had scarcely heard of indigestion. For his daughter there are some lovely grasses in the meadow, and in the swamp are cattails—not the feline caudal appendages he once fastened to the rat trap, to his mother's intense indignation. Pressed autumn leaves and small twigs glued on and touched with gold paint make pretty frames. And Buckeye portieres are extremely beautiful. You see the forests will add their full quota if called upon. Then the old farm house contains some things that cannot be found in the cities. Mother's famous pear preserves that used to be such a temptation, or the old dark honey made from the buckwheat patch. Maybe he won't eat it, but it pleases him just the same. One dear old lady sends her son a box of warm knitted wool socks each winter, and she sends plenty, as "John's wife is shiftless," a terrible crime to her. "Her teas, clubs and fol-de-rols take up her time." Imagine John's wife, with her silks and diamonds and social duties, finding time to knit socks. And that good, dutiful son promptly acknowledges the receipt of each box, then carefully puts them away. He wears silk but he doesn't tell his mother, on his vacations at the old farm, that wool is disagreeable to him. Is it not kind of him—and he a man that his clerks stand in awe of. If you have but a bundle of old magazines they may be a veritable godsend to someone starving for good literature—and there are many such. How much those words mean: "Pass it on." More than many sermons. A bunch of silk scraps to some poor shut-in; a spray of your pet flowers, some bulbs—any little thing, if given graciously, makes an acceptable Christmas gift.

The newspaper published at your little village would probably be more appreciated by some old resident now than the far-away costly magazine. Does your father or brother like good farm papers? And do the women in the family love flowers (who does not)? If so, I want to mention what a fine Christmas present The Practical Farmer makes. The paper and seed coupon is only $1.25, and the seedsman gives for each $1.00 in seeds ordered enough to reach in value $1.25, so you get the paper free. Last year I got several sample packets besides the $1.25 worth of seed. Your friend will have kind thoughts of you all year, as each week his Christmas present comes again and the women will have arms full of pretty flowers and hearts full of blessing. I know of one man who is going to buy some of The Practical Farmer books for his own Christmas. "Short Cuts" would be good for most any farmer. My present to each Northern friend and relative this year will be but a box of mistletoe, with its lovely waxy berries tied to a card with the words, "The mistletoe hung on the castle wall," and also a ball of fluffy cotton with the words, "Way down South in the land of cotton." They will be daintily tied with ribbon and will only cost their postage, but I know they will be prized.

Oklahoma.

Liquid Smoke.—E. Krauser & Bro., Milton, Pa., have for several years made a specialty of Liquid Extract of Smoke. It is cheaper and cleaner than the old way, giving a delicious flavor to the meat on which it is used. Send for circular, mentioning The Practical Farmer when writing.

A LINGERING COUGH

The cough that holds on in spite of all remedies needs energetic and above all thorough treatment. A mere cough mixture won't do. Root out the cold that causes the cough.

How? Scott's Emulsion.

Why Scott's Emulsion? Because it stops the irritation, soothes the tissues and heals the affected membranes.

When? Right away. Scott's Emulsion begins to help with the first dose.

We'll send you a sample free upon request.

SCOTT & BOWNE, 409 Pearl Street, New York.

The Christmas Drawer.

"Jane," Kentucky, writes: When a young girl expresses a desire to make something for her dear old grandmother, with her own fingers, I am never too busy to find time to give her some encouragement. This one says she reads The Practical Farmer and gets so many helpful ideas from Mrs. Melville's page, and desires me to send directions for several simple little gifts that can be made at her home, as her grandmother has taught her to use her needle and to sew, hence she wishes to make a present herself for her.

I think a little needle book would be pretty, or a hem-stitched handkerchief; or, if she paints in water colors, as she says she dabbles in it a little, a pretty landscape, framed, would be appreciated no doubt.

ST. JACOBS OIL
Penetrates quickly and cures Neuralgia.

Saved From Blindness.
Illustrated book on eye diseases sent free.
OREN ONEAL, M. D., Suite 912, 52 Dearborn St., Chicago.

GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers.
KIRTLAND BROS. & CO., Dept. GD, 90 Chambers St., New York.

Insist on getting The Buckskin Brand made of real rubber.
MONARCH RUBBER COMPANY,
St. Louis, Mo.

Lewis Violins
Sold Direct. Price from $3.50 to $62.50
We claim that they are better than other instruments sold by dealers at just twice the money, and we prove it by sending you any instrument ON APPROVAL Play it 10 days; then say if you want it.
BANJOS
GUITARS
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Our new Lewis E string prepared by our special process is not liable to stretch or break even if the fingers perspire freely. Price per string 25c—or state instrument you play, send addresses of four or five musical friends, naming instrument each plays and will send with our catalogue an E string FREE
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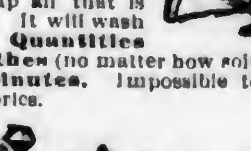

The "1900" FAMILY WASHER FREE

Time, Labor and Expense of Washing Clothes Cut in Two.

No More Stooping, Rubbing or Boiling of Clothes

THE "1900" BALL BEARING FAMILY WASHER

SENT FREE to any one without deposit or advance payment of any kind, freight paid, on 30 days trial. It is unquestionably the greatest labor-saving machine ever invented for family use. Entirely New Principle. It is simplicity itself. There are no wheels paddles, rockers, cranks or complicated machinery. It revolves on bicycle ball-bearings, making it by far the easiest running washer on the market. No strength required, a child can operate it.

No more stooping rubbing, boiling of clothes. Hot water and soap all that is needed. It will wash large Quantities of clothes (no matter how soiled) perfectly clean in 6 minutes. Impossible to injure the most delicate fabrics.

BROTHERHOOD OF LOCOMOTIVE ENGINEERS
HUDSON DIVISION No. 156
Sparkill Rockland Co. N. Y.
Oct. 22 1901

Sparkill, Rockland Co., N. Y.

"1900" Washer Company:

I have given your washer a fair trial. It is one of the best washers I ever saw. It washed three pairs of my dirty and greasy overalls and overshirt in ten minutes, and washed them clean. My housekeeper says it would have taken her two hours to have Washed them the old way. It will wash ten shirts, with collars and cuffs, in seven minutes. It will wash three washes without changing the water, only adding soap suds and about two quarts of water after the first wash.

I have been a delegate and attended twenty-six conventions held in different parts of the country, and my name is known on nearly every railroad in the United States and Canada. I am an engineer of the New York Division of the Erie road, and have run an engine for forty years. EDWARD KENT.

Write at once for catalog and full particulars to

"1900" WASHER CO.,
23 D. State St. Binghamton, N. Y.
References: 1st National Bank, Binghampton, N. Y.

Banner Lye

(Patented)
Safety Package

Banner Lye is not old-style lye, and you can easily open our safety package and use as little or as much as you need.

Banner Lye not only keeps your kitchen, milk-room, milk-pans and dairy perfectly clean, but it makes

Pure Soap

without boiling or large kettles, and in only ten minutes.

A 10-cent can makes ten pounds of hard soap, or twenty gallons of soft soap—the best soap you ever saw or made.

Your grocer or druggist sells Banner Lye for 10 cents. If you send us your address, we will send you free our book "Uses of Banner Lye."

The Penn Chemical Works, Philadelphia, U.S.A.

Sausage Making

requires little time and labor if you use Enterprise machines; $8.50 buys an outfit with sufficient capacity for any family butchering. An

ENTERPRISE
Meat Chopper and Sausage Stuffer

makes a combination that is unequaled for quality or quantity of work performed. A No. 10 Meat Chopper has a capacity of three pounds of meat per minute, and a No. 25, four quart size, Sausage Stuffer handles the meat as fast as it comes from the Chopper. The Cylinder of the Stuffer is bored true so that no meat can work up above the Plate; the patented Corrugated Spout prevents air entering the casings; with special attachments the Stuffer is easily converted into a perfect Lard Press. The Chopper chops quickly, uniformly, perfectly; won't clog, break or rust. Enterprise machines last a life-time. The name "ENTERPRISE" is on every machine as a guarantee of its quality. Sold by all hardware and general stores. Write for free catalogue of household helps, and send 4 cents for the "ENTERPRISING HOUSEKEEPER," containing 200 receipts.

THE ENTERPRISE MFG. CO. OF PA., Philadelphia, Pa.

A needle book made as follows is pretty and useful, and you can make it of odds and ends: One I saw was made of pale blue repped silk, and another of silver gray silk lined with pale blue silk. Procure two pieces of cardboard 3x4½ inches, and cover with satin or silver gray silk. Leave the silk all in one piece like a book cover. Cut the lining long enough to form a pocket an inch and a half deep in each side. Cut four pieces of fine white flannel to fit the cardboard sides, buttonhole stitch them all around the edges with light blue silk floss and tack them neatly to the inside of the case. Paint a spray of blue forget-me-nots on the silver gray silk, if you can paint well enough. This makes a dainty needle book.

There is nothing more appreciated than a fine cambric handkerchief hemstitched, about an inch-wide hem; then whip a narrow lace edge around it. If you soil it, just rub it out lightly in a warm Gold Dust washing powder suds and rinse, then while damp, place on your window pane and when dry take it and put it in a pretty box, with a card hand painted, with a little border of violets. Grandmother will keep this always.

[We have been wondering why no one has sent directions for bead work. Surely some of our Circle must be victims of this very popular craze. We had no time for it ourself, but most of our acquaintances are reveling in fobs, necklaces, chatalaine bags, purses, belts and what not. Even some of the gentlemen have the fever and are making their own fobs. If anyone has a word on this subject she will find a welcome here.—ED.]

* * * * * * * *

Effie Southard, Richland City, Wis., writes: Some pretty and useful articles, such as tray cloths, dusters, shoe bags and pillow shams can be made from flour sacks, that will look almost as well as linen. Unravel the stitching, wash and bleach, if they are made of unbleached, and after they are made starch just enough to look shiny like linen. Drawn work and hem-stitched hems look beautiful, and are very easy to do on this kind of cloth. Pretty designs can be copied from magazine covers or wall paper with the aid of a sheet of blue impression paper, which can be had for about five cents. These designs can be outlined with marking cotton or the blue thread drawn from pieces of new bed ticking.

* * * * * * * *

A pretty wall ornament is made by covering a palm leaf fan with plush or silk. Cover a bit of pasteboard, shaped same as one-third of fan, with same material, and stitch next the handle. This forms a pocket to hold photos. Finish all edges with jewelled passementerie; make a big bow for the handle. Hang on the wall by loop and bow of ribbon fastened on the fan opposite the handle.

A baby's basket, or a basket for baby's belongings may be made by decorating an ordinary round clothes or scrap basket with pretty bows of ribbon and lining with some fancy material. Line the cover and draw down in centre with a bow. The basket is better for having handles.

The Labor Question.

E. HOLLENBECK.

The call for laborers on farms and in other industries, the numerous strikes and other signs show this is a topic of the times. The trouble is acute. One farm paper editorially offers the Golden Rule as a remedy. Capital idea! Put yourself in his place. How would you like to be ordered around as though you were not born in the United States? How would you like to be criticised, cursed, called vile names, because you failed to do a thing in the one way an ignorant, narrow employer thinks is the one only right way to do? Take these farmers born and brought up on the farm they have inherited. They have never worked out a day, nor for wages, nor under a boss. Now, I have been an employe by the day, month and job, in a variety of occupations, farming included. I have been an employer of men. Experience and close observation have taught me that all these Labor vs. Capital troubles originate in selfishness, the effort of human beings to raise themselves above the common level, and at the expense of their fellow men. Among farmers the present tendency to land monopoly illustrates this fundamental fact. Time was when in all rural communities there were plenty of "forty-acre farmers." The sons in these families had leisure for a day's labor among wealthier proprietors. There were 80-acre farmers whose families did this, and even 20 and 10-acre farmers. Their girls were not averse to being "hired girls" in the old days. They were received as social equals in school, in families, in society; and made as good marriages, and wives, and mothers, and women, too, as the 100 to 400-acre farmers' daughters. I went to school once in a district having eight small landed proprietors, 40 acres or less. The school was crowded full of pupils. Now there are but two 40-acre, or less, farmers left in the district, and school has been kept for days with but one pupil! Then there were four farms of over a hundred acres; now there are eight. The process of buying out and crowding out the little proprietors goes steadily on as it did in Greece, Rome and Egypt, with the same results already on the horizon of events. With the crushing out of the independent proprietors dies the spirit of self respect, individual liberty and national freedom. Advent of tramp, soldier, serf, slave and despotism! If Freedom dies, her murder will lie at the door of the land monopolist and the trust hating, monopoly abusing Granger. Yes, I have been in the Grange, as charter member, too. My experience is that the prospect of buying at a discount is all that holds it together—just hope for plunder. I have lived among farmers most of my life; I know them. Another prolific cause of trouble between farmers and farm laborers, is the women folks. If a girl works out, she is at once classed by the women of larger landed proprietors as being of the class lower in social life. I have known women, respectable and good, wives of men who worked on a farm by the year, to live in a community a year or two and not be invited to the homes—no, not even recognized on the street—by the women of neighbors in sight of where they live. Oh, yes, some of them will be allowed to wash, clean house, help at threshing or in sickness, but in the calm days these lady aristocrats of land will go miles away to visit other land proprietors of their set. And the laboring man will be tolerated at the table while a dirty job is on, and ignored when "milady" has her finery on out in the street. The honest farmer howls for help—when a machine can't do the work. He is wroth because the laborer he bought out and drove away is not there to be run out of the shed like an old plow the half day he wants him. He can lie in the fence corner and be hated as a tramp the days the oppressed land monopolist does not want him. "Ninety-seven per cent. of the soil was owned by three per cent. of the inhabitants," declares a historian of Rome—and Roman democracy died of Roman despotism. We are treading the old Roman road. The tree of liberty is being rooted up.

Davison, Mich.

Originality.

J. F. WILLIAMS.

When complimented in regard to his many wise sayings, Benjamin Franklin replied that nine-tenths of what he published was not original with him. Our teachers used to encourage us to be original, but I don't believe they realized how very little originality there is in man. In trying to be original and clinging tenaciously to our own little discoveries, we almost invariably miss much that is far superior which we might learn from others. No one man knows everything, and he is wisest who is on the alert to learn from his fellows and is able to assimilate and apply to his own case whatever he learns. Be original, of course, but remember that we learn new things by means of previously acquired knowledge—appreciation to put it in scholarly phrase—and he will be most original who gives most attention to the wisdom of others. Herein lies the great advantage that the careful reader of the best thoughts of those doing the same kind of work has. There are few occupations that give more room for invention and discovery than farming. Repairs must be hastily made out of whatever is nearest at hand and with only the simplest tools. The same amount of work must be done in an easier way and with less time, the soil must be made to produce more, a little money must be eked out and made do service in many different directions. All these will tend to educate the farmer and his boy to be original and inventive, and has given us from the farm the greatest of statesmen, jurists, generals, and indeed, men in all the so-called higher walks of life. If, then, along with all these incentives to originality he fails not to be a learner his success is assured.

Shelby Co., Ill.

A Young Girl's Needs and Accomplishments.

S. J. H.

All of the busy girls and young mothers come to Mrs. Melville's page to be helped, and she is so glad to help us all that we may impose upon her, but I am going to try to help her out by sending a few recipes.

George Eliot told us in some of her common sense talks that it is well for a young girl to have a number of accomplishments, and to know how to do a dozen things well. She says a woman who can only do one thing well is not of much use about a busy household. I believe in what she says. This young girl is commencing right. She has only a small allowance but wishes to dress upon it, and make a good appearance. If she does so she must learn to darn the rip in her gown, to mend her gloves and hosiery, to do a great deal of brushing out of dust in her clothes, and by washing her laces, neckties, sheer, pretty handkerchiefs set you can save quite a good deal. "Be clever, sweet maid, and good." It is one thing to possess pretty things and another to keep them in order.

To clean your gloves put them on your hands, first mending the smallest rip. Then get five cents' worth of gasoline in a bottle and pour a little in your bowl and clean several pairs at a time. Put them on your hands and wash in the gasoline and dry them on your hands out of doors. White gloves can be cleaned to look like new in this way.

Wash your laces by sewing upon a strip of muslin and rolling tightly around a smooth glass bottle and fastening. Then make a suds of rain water and Gold Dust washing powder and drop the bottle in this suds and leave several hours; then drop it in clear water and dry on the bottle out of doors. It will look like new.

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ON WINTRY DAYS

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Topic No. 602, Dec. 12.—*Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?*

Topic No. 603, Dec. 19.—*Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26.—*Has The Practical Farmer Made any Dollars for You in 1903?*

Topic No. 605, Jan. 2. — *How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 606, Jan. 9.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 607, Jan. 16.—*Have You Found it More Profitable to Spread Straw and Clover Chaff on the Wheat Fields or to Use it all in the Manure?*

Topic No. 608, Jan. 23.—*Have You Found Currants and Gooseberries Profitable Garden Crops? If so, Give Your Experience in Their Cultivation and in the best Varieties for Market.*

Topic No. 600.— Have You Found Commercial Fertilizers Profitable in the Growing of Melons and Cucumbers? That is, Can You Grow These Profitably Without Any Stable or Barnyard Manure?

R. T. Deberry, Humboldt, Tenn.—I have been using commercial fertilizers for several years for watermelons and muskmelons, and have been uniformly successful in growing them without the use of stable manure, when other conditions were favorable. Began using fertilizers for growing Netted Gem melons in 1895, and have used no barnyard manure since. I start muskmelons in the wooden plant boxes in a hotbed, and transfer them to the field after frost is over. Break the land deeply in the fall, and in the spring bed it up and harrow down, until it is of the desired height, and make the rows five feet apart. These are opened with a 12-inch shovel, and 400 pounds per acre of a fertilizer containing 5 per cent. ammonia, 5 per cent. potash and 10 per cent. phosphoric acid sown along the furrows, and the shovel run again to mix it with the soil, after which the melon plants are set every four feet along the drill. Have grown fine crops in this way and have had them net $100 per acre. For growing watermelons the ground is thoroughly broken and then laid off in checks the distance apart I want my hills, and half a pound of the above fertilizer is scattered both ways in the checks. Two furrows are then thrown over and the seed planted. Have grown watermelons to weigh 48 pounds by this method. The greatest number I have ever grown on an acre ready for selling at one time were grown in this way in 1900. While I prefer well rotted cow manure for melons and cucumbers, I find it profitable to use commercial fertilizers when I cannot get the manure.

C. W. Beam, Loyd, N. C.—We have grown several crops of watermelons and thought we were well paid for our labor until this year, when two months of continuous dry weather parched the vines. We use only commercial fertilizers, except sometimes a little manure from the hog pens. Our fertilizer is made of 200 pounds 16 per cent. acid phosphate, 200 pounds kainit and 200 pounds cotton seed meal per acre. We apply at planting time, which here is about the first of May. We bed land in 14-foot beds and put fertilizer all in the dead furrow, scattering it well on both sides of the furrow. Then lap two furrows over it and plant.

Mrs. Frank Torbett, Piney Flats, Tenn.—I do not think that melons can be grown successfully without barnyard or stable manure. We have grown them for years successfully with stable manure right out of the stable. Ground is checked off six feet each way and holes dug for the hills. A forkful of manure is put in each hill and covered with soil. Then a large tablespoonful of commercial fertilizer is applied and covered with soil before planting the seed. When we began to grow melons, old melon growers told us to put manure in the hills about six weeks before planting. Last year we had two melon patches, one had the manure six weeks before planting. Then it set in wet, and we did not get the hills made for the other patch until planting time. As the manure was just out of the stable it warmed the hills like a hotbed, and every hill came up, while in the other not more than half came up.

C. E. Haw, R 2, E. Syracuse, N. Y.—I have found that it pays well to use commercial fertilizers in growing melons and cucumbers, in connection with barnyard manure, but have not had good success in using fertilizer alone unless the soil was full of humus to begin with. Without plenty of humus or barnyard manure it is almost impossible to retain the moisture these crops need in abundance in dry weather, as the hot sun bakes the ground in spite of all the cultivation given. But with a good coat of manure, or a crop of clover turned under the conditions are very different. I manure broadcast and plow early, harrow down fine and let lie till planting time, which here is about the first of June. Plow again and fit it in perfect shape, and then mark out six feet apart. Scatter the fertilizer in these furrows, using about 500 pounds per acre of a fertilizer high in nitrogen. I then mix the fertilizer well with a five-tooth cultivator and plant the seed in hills about three feet apart, thin to three or four plants in a hill, and give good cultivation as long as I can get through them, and then look for help to pick them.

Walter Hickman, Tipton, Mo.—This is not a good melon and cucumber country, as our soil is too heavy for them. We use horse manure for watermelons, plowing the ground as for corn, and make hills six or eight feet apart each way and place a scoop full of good manure in each hill, and plant plenty of seed. Thin to two or three plants in a hill and cultivate till melons set on the vines and then pinch the ends of the vines. We do not use any manure for cucumbers, as it seems to burn the vines.

J. W. Freeman, Nocatee, Fla.—We grow melons and "cukes" profitably with commercial fertilizers alone, provided the land is otherwise suitable and is well filled with humus. We would greatly prefer, however, to have some well rotted manure in the hills for all vines, supplementing this with high grade fertilizer. But enough stable manure is not attainable here, and thousands of acres of these crops are profitably raised without an ounce of stable manure. If compelled to plant without manure, and on land rather deficient in humus, I would want cotton seed meal to form quite a large per cent. of the commercial fertilizer used.

J. N. Ragsdale, Danville, Va.—I have been market gardening for four years, growing large crops of melons and cucumbers, and always have good crops if the season is favorable. I never use any kind of manure but a good complete fertilizer. With good land, a good fertilizer and good cultivation it will have to be a very poor season indeed if I fail to make a crop.

W. C. Aiken, 2807 Hoover St., Los Angeles, Cal.—In growing melons and cucumbers I find it profitable to use commercial fertilizers where the chemical elements can be bought at reasonable prices, though I have not been able to use them to the entire exclusion of stable manure or green manuring. On good average soil these crops will pay me to apply superphosphate and potash, depending on stable manure or green manuring for necessary nitrogen. I estimate that my crops will average much larger by a judicious use of fertilizers. It is my custom to make field trials with various materials, both of my own mixing and those sold as complete, and also special mixtures. I sometimes scatter broadcast, in the hill or drill, also in both ways, noting results carefully. I know this is the only way that I can use chemical fertilizers intelligently, as few can tell me just what elements my soils require. I can make these experiments without much trouble, yet with considerable satisfaction and profit, though I have not reached the point where I know just how much I can afford to use.

Mrs. L. D. Mays, R 5, Oklahoma City, Okla.—We grow melons and cucumbers successfully for home use and market, sometimes using a little stable manure but have never used commercial fertilizer. Melons of all kinds should have moist soil and be kept clean. We plant Improved Long Green cucumbers early, in low, damp soil. They readily sell at 5 cents each. Sometimes they are killed by frost, but we re-set same as cabbages, care being taken not to break the brittle roots. They get the benefit of the spring rains and pay more than many other vegetables. One year I put cow manure under the hills in the garden but they did no better than those in the field. I punch holes in syrup buckets, put a few rocks under them and let the water drip on the hills all night, and these are the vines that are loaded with cucumbers. Fairly rich soil, with plenty of moisture is the main thing for vines.

SUMMARY.

It is evident that most of our friends have found out that the profit in commercial fertilizers depends largely on the moisture in the soil, and that the amount of moisture retained by the soil in dry weather depends on the proportion of humus or vegetable decay in it. With a soil black with humus the crops of melons can be profitably grown with commercial fertilizers alone, as we have demonstrated time and again. The finest crop of watermelons we ever grew were planted on a mellow piece of bottom land where the roots could always find moisture. The land was plowed in lands 12 feet wide, and a subsoil plow was run in the dead furrows to still further loosen the land. The fertilizer was then liberally strewn in the dead furrows and two furrows lapped over it. These were then rolled flatter and the seed planted in a regular drill along the bed. When the stand was assured we thinned them out to about three or four feet apart. The first cultivation was with a one-horse plow, turning the soil to the rows and leaving dead furrows midway between the rows of plants. In this way the plants had a deep bed of moist soil below them and drainage of the surface, and the result was a wonderful growth and a great crop. On dry upland soils I have never had much success in using fertilizer alone for cucurbitaceous plants of any kind, and I always want a well prepared compost of cow manure and woods earth for this purpose. This compost is made by making a layer of black mould from the woods a foot deep and covering well with cow manure. Then another layer of mould and another of manure, always keeping the pile broad and flat. When there is any heating apparent the pile is chopped down and turned and remade, and this is repeated at intervals through the winter, so that by spring we have a heap that is as black and smooth as though entirely of leaf mould. We never make hills for any melons or cucumbers, but always plow beds and fill the dead furrows with the compost the whole length. Then we apply a good dressing of a high grade fertilizer and plow furrows over it from each side, and then when the plants are started plow towards them so as to leave the drainage furrows between the rows. We have never had as good success on uplands with manure alone or with fertilizer alone as with both of them. We prefer a fertilizer mixture nine parts acid phosphate, nine parts dried blood and two parts muriate of potash, using 500 pounds per acre. Cotton seed meal we fight very shy of in large percentages, as it interferes seriously with the germination of the seed, causing a mould to run through the soil that kills everything it touches.

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The last opportunity to get The Practical Farmer for a year and The Practical Farmer Almanac both for a dollar. See page 344.

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SHORT CUTS.

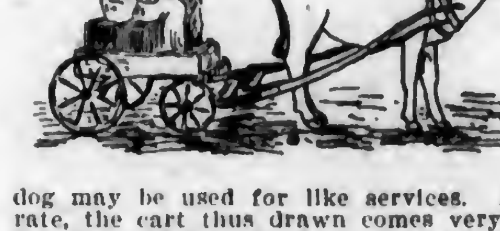
BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Hauling Corn Fodder Before Husking.—Make a sled 3½ feet wide by 6 feet long, with three cross-pieces of 2x4-inch stuff. The first one as near the front end as you wish and the second 2 feet from front end, and third 1 foot from rear end. Runners should be of 2x8-inch hard-wood. Bore a 1-inch hole in rear cross-piece just inside each runner, also the same in middle cross-piece, only about 6 inches from each runner. Take two ropes a little longer than needed to reach around shock, one for bottom and one for top, and pass each end of these through holes from bottom of sled. To load, begin by reaching in and cutting saddles, then stand sled up on rear end with back of it against shock and bind it firmly there with the ropes, being careful to keep lower rope as close to bottom of shock as possible. Now hitch to upper rope on bottom of sled and pull both over. By hitching to the rope it will hold shock to place on sled. When this is done all you have to do is to unhitch from rope, fasten to hitch on front of sled, bind ropes a little tighter and you are ready to go. A ring or loop in one end of ropes will help about binding shock tight. Also a common wagon stay chain fastened to doubletree by link end will make it quicker about changing from rope to hitch on front of sled. If sled is floored back to rear cross-piece it will prevent stubble from breaking ears off. This for short haul is the best plan we have ever tried.
Chandler, Okla. ROSS A. RECTOR.

Salt Needed.—It is very important that cattle and other stock should have a regular supply of salt. An old and successful farmer near here used to say that his great stand-by was salt. It keeps the stock healthy and gives them a better appetite. It is well to have it where they can get it at any time. A person should eat a little salt after eating nuts. For ivy poisoning apply kerosene oil.
R 1, Sigourney, Ia. WALTER HOFFMAN.

Make the Children Contented. — No pains should be spared to make the children feel at home on the farm, and contented and interested. Pet stock are a great charm and attraction to them. An exchange (Agriculturist) tells of some children in Rhode Island who have a trained yearling calf to draw their little wagon, to their great amusement and even practical utility. A goat or a large dog may be used for like services. At any rate, the cart thus drawn comes very handy for the children to haul messes of green stuff, fruits and other things from the garden. And it keeps the children busy and happy. A contrivance of this kind is worth a good deal of trouble and pains.



How to Have Good Seed Corn.—Some four years ago I paid fifty cents for one quart of XX sugar corn. It made 600 hills by actual count. Sold some in market; used for family all we wanted; gave to neighbors. All pronounced this kind of sweet corn the best. I saved a half bushel of first planting for seed. Have planted from this, saving yearly since. We are eating from the present growth now. In saving this seed I went through the field and picked the first ripe ears as soon as the husks turned yellow. Then stripped husks down and hung up in a room to cure before the frost comes in early fall. The secret in saving good seed corn is to have it well cured before the frost freezes the germ. If this is done it will be good for a few years. C. W. KELLOGG.
Bedford, O.

Horse for Cutting Corn Stalks.—Use a 2x4 16-feet long, with a 1½ or 2-inch hole 3 feet from upper end and one or two down from this 1 foot apart. For a cross use a pole which fits loosely in these holes. The legs should be 4½ and 4 1-3 feet long, 6 inches wide at top and 2 inches at bottom, and 1 inch thick. Notch one side of the 2x4 about 4 inches from the end on the upper edge, so that one leg will fit in the notch even with the surface. Nail the long leg in securely and hinge the other leg on opposite side with a strong piece of leather. Be sure to tack hinge on inside of leg. Nail a stick on upper end underneath to hang strings on. G. M. DEISHER.
Lewisburg, O.

A Good Husking Pin can be made by taking worn-out trace irons. Take the eye that goes into hames of harness; if not worn through file it in two pieces and file point on it. Place straps through rivet holes; this will make two pins.

A Tree Root Protector was recently contrived by a neighbor, to prevent chickens scratching out roots of cultivated young trees, as follows: Take for end pieces two 1x3 or 1x4 boards as long as desired, say 3½ feet; nail slats across, of any handy material and desired width, using but one nail at each end. Now saw one of the end pieces in the middle and the contrivance can be swung open to place about tree and is readily removed for purposes of cultivation. F. A. COWELL.
Lakebay, Wash.

Pulling Posts.—A quick and easy way to pull a post is to take two wheels from a binder truck or mowing machine and put in an axle of 4x4-inch hickory or other hard-wood 2½ feet from centre of one wheel to centre of other. Bolt or clamp to axle a tongue of some good strong wood ten feet long, to extend 8 feet in front. Bolt in front and 2 feet behind. Bolt to short end of tongue a good chain. Back your machine up to post, wrap chain around post near bottom, bear down on long end of tongue and the post comes out as if there were four men lifting at it. W. W. JONES.
Oneida, Kan.

For Tying Corn Shocks.—Take a large slide snap. Tie into the ring end a rope as large as can be pressed into the other end when the slide is open. Put the rope around the shock, press it into the open snap and draw tight. The snap will sometimes hold the rope in place; if not, have the rope long enough to put the knee against it while tying. Tried this arrangement lately and like it best of anything yet tried. We use binding twine to tie tops with. The twine is cut in proper length and enough of them fastened to the waist by a string to go across the field and back. GEO. W. WEBB.
Arcadia, Wis.

Cheap Tire Tightener.—Cut a piece of 1x3 a little shorter than spoke of wheel. Take a piece of same size, put one end under rim of wheel. Now place short piece on hub of wheel for fulcrum, bear down on lever till rim is raised from the spoke. Now take strap of thick leather same width as diameter of spoke, cut a round hole in it same size as tenon on spoke; cut from round hole to edge of strap so it can go around tenon. Now let rim down on leather and trim it to size of spoke, and your work for one spoke is done.
R 1, Plymouth, N. C. L. H. HARRISON.

Portable Sorting Table for Apples.—Take an old buggy and remove seat. Pick the apples and empty into the buggy box and then sort into barrels. If the buggy box is not large enough make a longer box.

Handy Picking Bag.—Take a common grain sack and tie one corner of the bottom to the hem at the mouth of the sack. Place over right shoulder and under left arm. Slip a piece of large wire 6 inches long in the hem to keep the sack open while picking.
Welshfield, O. G. L. POOLE.

Fresh Corn Meal Early.—To get fresh corn meal early, we go to field as soon as corn gets hard, pick and grate it on an ordinary kitchen grater, enough for a few meals. It is better than ground meal. Grating must be done before corn gets dry enough to shell, or grater will shell it instead of grating.
R 3, Angola, Ind. E. G. RICHMOND.

Slippery Elm Cure.—I read something the other day that every mother should know. "If a child swallows a tack or any sharp article, have him chew slippery elm bark into a pulp and swallow. Keep this up for about three hours, and every little while after, until the article passes from the bowels. Where the child is too young to chew the bark, stir the ground bark into a mush with warm water, giving at least a cupful within the hour. Keep giving this every two or three hours until the foreign substance is ejected. The slippery elm forms a coating around the object, and if sharp, prevents cutting, and if lead or copper, prevents poisoning." Never give a strong purgative when something sharp is swallowed, for it causes such violent movement of the intestines, that the sharp substance is forced into them and can't be removed. MRS. C. L. RICHARDS.
Prairie Grove, Ark.

Apple Butter. — Have the boiled cider ready. Each gallon should be boiled down to one quart. Core the apples, but don't peel them. Cook into a mush and run through sieve or colander. Pour in an earthen or porcelain-lined kettle and cook slowly in the oven, stirring from the bottom and down the sides once in a while. When it becomes thick add boiled cider, also sugar and spices to taste and return to the oven, where it will soon cook down rich, thick and dark, with little attention. With a moderate fire it will not burn; if it browns too much a cover may be used on top. By this method the long, tiresome, hot work of continual stirring is saved. Other kinds of fruit butter may be made the same way. MRS. FANNIE WOOD.
Falmouth, Ind.

To Keep Tap Tight on Wagon Tongue Rod.—If the tap gets loose on your wagon tongue rod, take it out and change ends so that when anything draws under it, it will run it on in place of off.
R 2, Greenwood, Ark. T. C. HARRIS.

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PAGE
THE SAVING
in posts, staples and labor pays the difference in price, and then it lasts so much longer.
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Mistakes, Failures and Successes.

In this department we publish the **Mistakes, Failures and Successes of our subscribers.** They are equally instructive and necessary, **pointing the way to success.** Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Time to Take off Honey.—It is a mistake to leave honey in the hives until early autumn, as many do, for when left on too long the bees empty some of it into the brood combs. The market demands that cappings shall be white as snow, and when left on too long they become dark and lose their clean, attractive appearance. The sections taken off before the bees have had time to darken them will bring at least two cents more on the pound when put on the market. If you want the honey for your own table, the light sections look more attractive and contain the best honey, we think. The dark honey has a strong flavor that is objectionable to most people. The partly finished sections at the close of honey flow are valuable for drawing combs next year if taken care of, and are kept clean. FANNIE M. WOOD.
Falmouth, Ind.

Melons, Sunflowers and Peas.—I will send in an account of a mistake I made, hoping that it will benefit someone. I planted melons nine feet apart each way, then drilled peas one way between rows, and planted sunflowers in melon rows to shade the melons from the hot sun. As a result, I did not get a melon worth eating, the sunflowers having completely sapped the ground of moisture. Then it turned off dry, the sunflowers died and the peas made a very good crop after the fall rains set in. My advice is to never plant melons and sunflowers together, for you will almost certainly fail on one or the other. R. F. FRASIER.
Alba, Texas.

Plant Shade Trees. — Some great mistakes are made by not setting out shade trees in early life. Fifty years ago the writer set out some sugar maples in front of the dwelling house; they are now ten feet higher than the two-story house, and it is a great pleasure to sit in their shade. They also make the rooms cooler and serve as windbreaks. Many put off this duty until old age overtakes them. When one plants trees of any kind and reaps the benefits thereof, it seems but natural that they should enjoy it more than if it were some other person's planting. When I bought my little place, more than fifty years ago, there was a row of sugar maples fronting the road. These are now large trees, perhaps 75 years old. The trees I planted now lack but 3 inches of being 4 feet in circumference, by actual measurement. C. W. KELLOGG.
Bedford, O.

Cabbage Worms.—One of the best and easiest methods we have used for destroying worms on cabbage is to sprinkle thoroughly once or twice a week with red pepper tea. Use a medium sized spoonful of pepper to a gallon of boiling water, and when partly cooled apply with a sprinkler. This kills the worms, destroys the eggs, and if used properly during the early part of the season, insures a fine crop.

Grit for Poultry.—If your soil is lacking in gravel it is a good plan to have a large flat rock placed in the poultry yard, with a hammer conveniently near. Then as broken dishes accumulate they can be broken into small bits with the hammer. These will be greatly relished by the poultry and will take the place of natural grit. Broken crocks, jugs and jars may be used in the same manner. The rock and hammer may also be used for pounding bones which have been dried in the oven. This, however, is a laborious process and can be done much better in a bone mill. In either case your work will be much appreciated by the thrifty flock of fowls. MRS. T. A. SHUFF.
New Berlin, Ill.

Change the Garden Plat. — Having moved our farm barns to a new site several years ago, we took the advantage of using the old site for a garden. It was an ideal garden for many years, but we finally made the mistake of using it too long. It became very weedy; the vegetables were raised with difficulty and of poor quality. This season our garden is a long, narrow plat out in the open field, and all work possible is being done with horse and cultivator, everything being planted in long rows 3½ feet apart. In this way we have a fine garden again and with but little labor. Land is cheaper than labor here. E. E. LAWRENCE.
Spafford, N. Y.

Using Postage.—A wise old physician, and later a wealthy farmer, once told me that "a man that is stingy of postage stamps will never amount to much." Said he had given dollars' worth to cranks who were out of stamps and wanted to borrow one, etc. He always branded them as ne'er do wells. I believe the judicious use of postage stamps is a splendid way for farmers to better and broaden their lives. Keeping up correspondence with absent friends, writing when unable to go in person, is almost equal to a visit and makes life brighter for those who are absent from the old home (this if you write bright letters). Then when a farmer strikes a knotty problem in his occupation, has a soil he does not understand; when a new seed is mentioned, or anything he wants to know can easily be ascertained by writing to his Experiment Station, State farm journal or The Practical Farmer. I like to write; use lots of Uncle Sam's postage stamps and never thought I used too many, for I use them right. I can recall times gone by when a little 2-cent stamp used properly saved or gained us from 10 cents to $2 that would have been lost by thinking "Oh, what's the use to write, it won't do any good."
Owosso, Mich. DORRIS D. MATE.

Stump Pulling.—For the benefit of Practical Farmer readers who have fields containing small stumps, I will say the following is a very effectual way to rid the field of them. In plowing the field use a strong plow and when a small stump is encountered let the point of the plow strike the stump squarely. Now, unles you are very heavy, put your full weight on the handles and tell the team to pull. You will be surprised at the result. In one day's plowing I took out stumps in this way that would have taken days in any other way, and besides, I plowed two acres of ground. In another field I uprooted snags that had long been a source of annoyance, and which would have taken a great deal of time to dig down after. I. SNOW.
Vienna, Ill.

Millet with Potatoes.—We have been quite successful in raising millet and potatoes together. We take an early variety of potatoes and plant them as early as possible; in this locality we plant in the latter part of March or the first of April. The crop is then cultivated thoroughly until time to lay them by. Then at the last cultivation we sow millet and cultivate the millet seed in very shallow. The writer has harvested two tons of millet and 125 bushels of potatoes to the acre, which is considered very good for this locality. A considerable advantage is that by this method the ground is left in excellent shape for digging the potatoes.
Marshall, Mo. J. S. CROCKETT.

Protection for Flower Beds.—I think the following will be of interest to farmers' wives and daughters who are troubled with chickens scratching up the flower beds. Buy a roll of poultry netting 18 inches wide. Put this, or as much as you need of it, around the flower beds, using little stakes wherever needed to keep it in shape. For round flower beds no stake is needed, but might need a piece of heavy wire bent the shape of a staple and put through the lower edge of fence into the ground. This fence adds to the beauty of the flower bed and does not hide any of the flowers. MRS. J. L. GLENN.
McConnellsville, O.

No Ice.—Several years ago I dug an ice house, but as it happened, did not get the ice into it, and later on we put the milk and butter into it. We used the pit in this way the first season and it answered our purpose so well that we have been content to use it in this manner all along from that time to the present, and have never had occasion to get in ice, as both milk and butter keep well during the summer. We manage the cream very well also. I have no objection at all to the convenience of having a supply of ice, but for our use we have been doing very well without it. S. R. SLATE.
King, N. C.

Convenient Hog Pens.—I have a large pen for the hogs to run in and sleep in, with a small one to feed in. This pen has a picket fence around it, also a floor and gate, the latter being fastened with hinges at top so that the hogs will soon learn to push the gate aside and come in. When they are through the gate swings or falls shut after them so the chickens cannot bother the feed. With this pen you can feed at any time you like, and need not be like my neighbor who cannot feed in daylight because of the chickens. CHAS. A. VANSICKLER.
Farmington, Mo.

Laying Felt Roofing.—The first felt roofing we used was put on across the roof, running with the laths. This was a mistake, as some of the laths had a space of an inch or two between them, and in nailing on sometimes a space of a foot or two, and thus would not get a good hold and in windy times would puff up and tear. We now place it up and down the roof and avoid this trouble. We also have found it much better to use four-penny nails instead of the regular roofing nails. G. M. PURDUE.
Sadlersville, Tenn.

IT IS A JOY TO BE CURED.

Painful Piles Become Painless at Once and are Cured in Short Time.

It almost pays to have the piles so great is the feeling of relief when Pyramid Pile Cure is applied. They are in the form of suppositories and reach the affected parts at once and the pain ceases and a mild feeling of ease and comfort takes its place. The healing process begins immediately and continues as long as the cure is administered until the sufferer is perfectly and completely well.

How much more sensible is this method than the barbarous torture inflicted by the knife and instruments? How much more satisfactory to be able to administer a simple effective remedy in the privacy of the home than to submit to the humiliation of an examination and operation in the physician's chair!

Pyramid Pile Cure cures piles to stay cured. Thousands and thousands of sufferers the country over have found this out through the testimony of their friends and others, and the sale of this remedy is increasing enormously every week and month. It is certainly a glorious thing to be able to make great numbers of people happy and nothing will cause happiness so much or do it so quickly as relief from pain and the cure of a dreadful disease. The proprietors of Pyramid Pile Cure, therefore, have a great feeling of gratification and happiness themselves when the letters from former sufferers come pouring in on them telling of the wonderful cures and rejoicing and giving thanks for their deliverance from this terrible disease.

Pyramid Pile Cure is for sale by all druggists at 50 cents a package or will be sent at once in plain wrapper on receipt of price by Pyramid Drug Co., Marshall, Mich.

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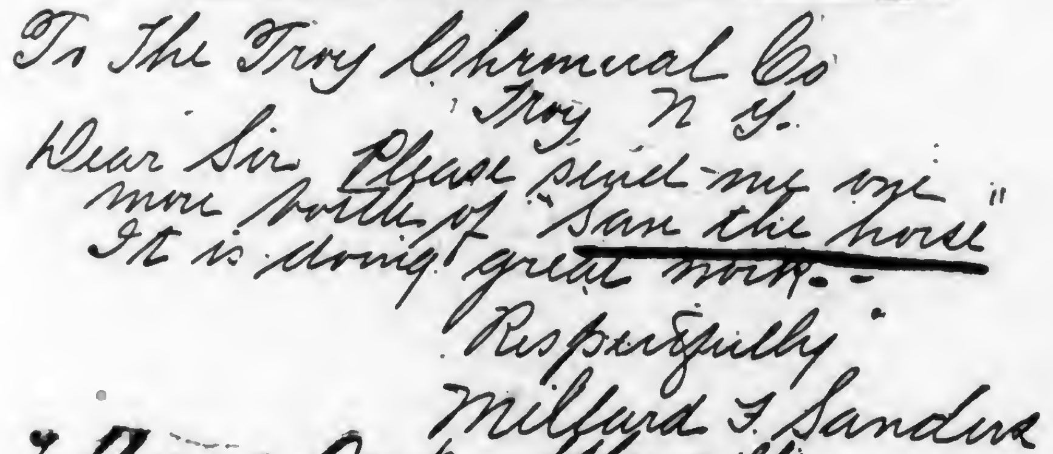

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Dear Sir ~~Please~~ Please send me one
more bottle of "Save the horse"
It is doing great work.
Respectfully
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7. Driving Park Glenville
Ohio

September 7, at the Fasig-Tipton sale at Sheepshead Bay, a yearling by Esher-Excellenza was being sold by Mr. William Easton, and when the animal was led into the ring he said:—"This horse has been suffering from a bog spavin, of which practically no trace remains. He was treated with that remedy called 'Save-the-Horse,' which all of you know, and it did save the horse; that is, it cured him. Now, you know lots of great horses, Morello and others, were successfully raced, and there is no reason to expect that this colt will ever take a lame step.' The bidding opened then at $250, and the colt was sold for $800 to Mr. J. D. Smith.

"Private Stables Jas. Galway, Race Track, Saratoga, N. Y.
I got a bottle of "Save-the-Horse" first of Moseman & Bro. of New York and used same on ringbone, curing it entirely. I next used 'Save-the-Horse' on two splints and cured them. Have also used it on a strained Pastern Joint, which made horse very lame; it cured this also. I predict a great output of 'Save-the-Horse.' It has never failed to cure any case I used it on." EDWARD FEAKS, Trainer for Jas. Galway, of 312 West 56th St., New York, the millionaire owner of Meltonian and many other noted horses.

Cured horses are absolute certainties as to the possibility of the remedy for your own case. Such results as above by men whose reliability can be readily ascertained, have carried "SAVE-THE-HORSE" over skepticism, prejudice and uncertainty. Send for booklet and copy of written guarantee, which is as binding to protect you as the best legal talent could make it. No man need see his horse suffer and become incapacitated.

"SAVE-THE-HORSE" Positively and Permanently Cures BONE and BOG SPAVIN, THOROUGHPIN, RINGBONE, (except low ringbone,) CURB, SPLINT, CAPPED HOCK, WINDPUFF, SHOE BOIL, WEAK and SPRAINED TENDONS and ALL LAMENESS. Cures without scar, blemish or loss of hair. Contains no mercury or poisonous substances. Can apply in all conditions and extremes of weather. Horses may be worked as usual.

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in southern part of New London Co., Conn. Very dry in April and May; also in August, which injured hay crop. Oats were good. The cool, dry summer was unfavorable to corn. No cherries, peaches or plums; very few grapes; pears good; apples a light crop. Potatoes have rotted badly; turnips and cabbage good. Fall feed good and cattle look well. Farm help scarce. Prices: Potatoes, 80c.; turnips, 35c.; apples, 50c. per bu.; butter, 25c. per lb.; eggs, 33c. per doz.; chickens, 15c.; hens, 12c. per lb.; milk, 5c. per qt. L. E. MOORE.
Uncasville, Conn., Nov. 17, 1903.

Located in Steuben Co., 15 miles northeast of Bath; 2 miles from Keuka Lake, around which is the great Keuka grape region. Grain, hay, stock and dairying. Prices: Good horses, from $150 to $200; cows, $30 to $40 each; beef cattle, 4½ to 5c. per lb.; wheat, 80c.; rye, 55c. per 60 lbs.; buckwheat, 60c. per 50 lbs. Crops, oats 20 to 30 bu. per acre; hay, 1 to 2 tons; buckwheat, 15 to 25 bu. per acre; corn poor. Season dry till June; from then on excessively wet. First frost Oct. 24th. Buckwheat all cut; threshing commenced. Farm help scarce; help in house not to be had. JEROME CROOKSTON.
Hammondsport, N. Y., Nov. 16, 1903.

Have been receiving letters from all parts of the U. S. since my card was published, which shows how popular and widely read The Practical Farmer is. I cannot answer the letters personally, so will answer them all here, as the questions were almost the same in each letter. The weather is pleasant now, no frost yet; no signs of any; climate healthful; soil good; finest fruit country in the Southwest. Fruit is seldom a failure; good crops for the last five years. Hail storm, first in five years. We do have some hard storms, but so do most other States. Wages are good; any kind of a plasterer gets $3 to $4 a day. Orchards from 40 to 100 acres around Oklahoma City. No land can be bought near the city for less than $40 to $50 per acre—4 to 5 miles out. Dairymen get best prices for milk; gardening is a paying venture, and cotton this year is good price. Finest soil for sweet potatoes and vines, such as melons, cucumbers, etc. The best way is to come on some of the cheap excursions and see for yourself.
MRS. L. D. MAYS.
R 5, Oklahoma City, Okla., Nov. 12, 1903.

The subscription blank enclosed in this number is an earnest invitation to every subscriber whose subscription expires in the next two months to send their renewal subscription on or before December 1st.

Weather fine; people healthy. Very little frost yet; grass is green and farm folks cheerful. Cotton sells for about 10c. per lb. Plenty corn, potatoes, cane syrup, etc., which puts our soil tillers in better condition than for several years past. Corn, meats and all supplies are cheap enough; lands are cheap yet; a few sales have been made lately to Northern home seekers. This State has started up hill at last. Railroads, factories, etc., are being built. The stock farm business would surely be desirable here for one who has a little capital to start with, taking into consideration climate, cheap lands, spontaneous grass, plenty good water in many places, besides almost any crop can be grown that is desired. D. A. SHAW.
Brandon, Miss., Nov. 16, 1903.

This is a fruit country, but this year we have no fruit of any kind, for what little was not killed in February, was killed on May 1st; fruit trees of all kinds have made a splendid growth this year. General farming carried on to some extent and the principal crops raised are wheat, corn and hay. Wheat was a poor crop; hay was good and so was corn, from 25 to 50 bu. per acre. Farmers late sowing wheat on account of the fly; some just finished. Better methods are practiced and more farm papers read than formerly. Farmers feeling hopeful.
N. P. JACOBSEN.
Seymour, Mo., Nov. 14, 1903.

We are about 6 miles south of the Blue Ridge, in a health giving mountain country, in Western North Carolina, and near the large mountain known as the Sugar Loaf. Many people visit through the summer months for the fresh, cool air and mountain scenery. We have had fine weather for gathering crops; fair and cool, but no frost until Oct. 25th. We can produce good crops of most anything we wish to cultivate, but we need more practical farmers. Stock in fair shape and plenty of feed for winter. Farm labor, 40 to 50c. per day and board; old corn, 80c.; new corn, 50c.; rye, $1 per bu.; butter, 20c.; bacon, 10c. per lb.; eggs, 12½c. per doz. E. F. RUFF.
Dimsdale, N. C., Nov. 16, 1903.

Located in Caddo Co., near the beautiful little river Washita; 30 miles west from Chickasha, I. T. Though a new country crops were fair. Wheat seeding being hindered by dry weather. A large acreage being sown. Prices about as follows: Wheat, 64c.; corn, 40c.; oats, 35c. per bu.; cotton, 9½c. per lb.; cotton seed, $15 per ton; cattle low, 2 to 3c.; hogs, 6c. per lb., dressed; eggs, 20c. per doz.; butter, 20c. per lb.; chickens, 25c. each. Good demand for all produce. Land, $5 to $25 per acre. R. L. BOONE.
Ft. Cobb, Okla., Nov. 14, 1903.

Located in Jefferson Co., S. E. Indiana, on Ohio River. Corn and potato crops about an average; wheat much below; timothy and clover hay good yield; very little clover seed hulled this year; large crop of onion sets and seed raised here; very little wheat sown, and mostly in bad condition on account of dry weather; increased area of winter oats sown; unusual area sown in timothy, but not a good stand; apples an average crop. Prices as follows: Wheat, 82c.; corn, 55c.; oats, 33c.; potatoes, 60 to 75c.; sweet potatoes, 75c. per bu.; timothy hay, $11; clover, $8 per ton; butter, 15c.; chicks, 9c. per lb.; eggs, 23c. per doz.; hogs, $4.60; cattle, $2 to $3.50; calves, $5.25 per cwt.; onions, large, 50c. per bu.; sets, 3c.; seed, 40c. per lb.; pickle onions, $1 per cwt. Cattle and hogs becoming more numerous, especially hogs. More than usual cold weather this fall; first killing frost Oct. 18th. H. L. GRAHAM.
R 4, Madison, Ind., Nov. 17, 1903.

Located in Central New York, 5 miles from L. V. R. R. Weather mild, but excessive rains; fall work backward in consequence. Very little plowing done. Apples are a very large crop and are being shipped from station at 50c. per bu. Other crops, especially corn and buckwheat, are below the average yield. Prices as follows: Light pork, $7 per cwt.; butter, 22c.; chickens, 9c. per lb.; cows $25 to $40 per head; wages high and help scarce.
CHAS. HUFF.
Moravia, N. Y., Nov. 16, 1903.

Located in McKean Co., 7 miles from county seat, Smethport. Two railroad and telephone lines; lumbering about done; people turning their attention to farming. Principal industries are dairying and stock raising. Hay and oats good crops, but badly damaged by rain; apples plentiful, not much sale; potatoes fair, rotted some. Too much rain all season. Prices: Oats, 50c.; potatoes, 50c.; wheat, 85c. per bu.; hay, $10 per ton. Corn light. Hired help scarce. Success to The Practical Farmer.
MRS. D. E. WINDSOR.
Coryville, Pa., Nov. 18, 1903.

I am very fond of reading the Postal Card Correspondence on the last page of your paper, and thinking that someone might enjoy a few lines from this part of the country, I send a card. This is strictly a farming country and we raise corn, hemp, tobacco, wheat, rye, potatoes, beans, cow peas, etc.; also raise cattle, hogs, horses, sheep and fowls to eat all of the grain raised here, outside of what it takes to feed the people. Prices: Best cattle, $4.75 per cwt. down to 2c. per lb. for scrubs; horses, from $50 to $3,000, according to breeding and style; corn, 60c. per bu.; hemp, $5 per cwt.; wheat, 75c.; rye, 68c.; potatoes, Irish, 75c.; sweet, 60c.; beans, $2.50; cow peas, $1 per bu.; land, $10 to $150 per acre. E. A. GOFF.
Indian Fields, Ky., Nov. 16, 1903.

Located in Franklin Co., Tenn., on the N. C. & St. L. R. R. Having fine weather for wheat sowing and corn gathering, which are both about completed. Made only half a crop of wheat, although commercial fertilizers were used; corn one-half crop, on account of dry summer; made an average crop of hay; good gardens and Irish potatoes; sweet potatoes a failure on account of the drought; had a fine crop of berries and apples, but peaches were a failure. Poultry raising receiving more attention than ever before; some hogs raised; fat hogs selling at 4½c. per lb.; some mules raised and bring good prices; wheat selling for 80c.; corn, 40c.; potatoes, 75c. per bu.; butter, 20c. per lb.; very little sale for milk; we have no dairying here; chickens, 10c. per lb.; eggs, 20c. per doz.; land sells for about $20 per acre, on an average. Country thickly settled. Farm help, 50c. per day and board.
MRS. W. M. PAYNE.
Decherd, Tenn., Nov. 14, 1903.

Located in Central Iowa. Land somewhat rolling, but all tillable; some timber along streams. Crops very good considering the extremely wet weather during the fore part of the season. Yields are about as follows: Corn, 50; oats, 30; wheat, 20 bu. per acre. Potatoes scarce; hay made about two tons per acre; fruit crop good. Weather fine. Fall plowing nearly all done and corn husking well under way. Prices: Horses, $75 to $150; cows, $25 to $40 per head; stock steers, 4c. per lb.; hogs, $4 per cwt.; corn, 60c.; oats, 30c.; wheat, 60c.; potatoes, 70c.; apples, 75c.; seed corn, $1 per bu.; butter, 20c. per lb.; eggs, 15c. per doz.; live chickens, 6 to 7c.; turkeys, 7 to 9c. per lb. Land not changing hands much. W. L. SIMS.
Newton, Iowa., Nov. 16, 1903.

Located in southwestern part of the State. Recent rains are helping the late sown wheat, but just returning from a drive covering three counties, shows below the average for time of season. Corn 80 per cent. of a crop. Hogs marketable now, scarce; shoats 100 lbs. or less an over supply; cattle scarce; horses, common work, $100 to $125 each; choice draft and fancy drivers high and scarce; poultry plentiful; chickens, 9c. per lb.; eggs, 25c. per doz.; butter, 22 to 27c. per lb. Good farm help scarce; wages, $20 to $22 per month and horse kept. JOE HARRIS.
Germantown, O., Nov. 17, 1903.

Located in Erath Co., Texas. Weather cool and dry; crops good; apples fine; many new orchards being planted. Great interest is taken in all kinds of fruit. Prices: Corn, 60c.; potatoes, 60c.; cotton seed, 20c. per bu.; eggs, 17c. per doz.; butter, 12½c. per lb.; chickens, from $2 to $2.50 per doz.; cattle, $7; good horses, from $75 to $100; mules, $100 to $150 each; land, from $5 to $25 per acre. Crops about all gathered. Success to The Practical Farmer.
OLLIA E. ATOR.
Lipan, Texas, Nov. 13, 1903.

Situated in Hyde county, the granary of the State, 1½ miles from Pamlico Sound, and 2 miles from Mattamuskeet Lake. Our principal crops are corn, cotton, oats and peas. For the past few years a great many of our farmers have planted Irish potatoes and few of them have realized good money from them. The weather is as fine as could be wished for and the farmers are busy gathering in their crops of corn, cotton and potatoes. Our lands are very fertile and sell readily at from $25 to $100 per acre; corn, 45c.; peas, 75c. to $1; oats, 45c. per bu.; seed cotton, 3½c. per lb.; soy beans, 45c. per bu.; horses and mules, $75 to $150; cows, $15 to $50 each; hogs, 5c. per lb. gross; sheep, $1.50 to $4 each; eggs, 20c. per doz. Fruit crop very short, but vegetables plentiful and very cheap. Fish and oysters can be had at short notice. Wild geese and ducks are coming to our shores a little earlier this season than usual. Long life to The Practical Farmer. W. D. MANN.
Wysocking, N. C., Nov. 16, 1903.

This is an unusually late harvest. The cotton is turning out even worse than at first thought. Corn has made a fairly good turnout; peas made a splendid average; potatoes are being dug, and are making a fairly good crop. Prices of provisions have advanced somewhat. Weather for gathering crops has been fine: scarcely any rain and no storms; first frost of the season appeared about two weeks ago. There is no top crop, what there was of it being killed by frost. In this section the cotton crop will probably not make over 75 per cent. maximum. Corn, 90c. per bu.; butter, country, 20c.; cotton, middling, 11c.; bacon, 9 to 10c. per lb. Other provisions high, with little variation.
ROBERT M. HITT.
Montmorenci, S. C., Nov. 14, 1903.

The famous "Palouse Country" occupies the central eastern part of Washington State, and consists of rolling prairie and small hills, with some timber along the streams. The harvest was good, but wet weather damaged grain somewhat in the shock. October was ideal all through. Much fall wheat sown and most of it looks well. Much oats were sown and yield good; fruit crop medium, but prices good. In short, all crops were good and prices good also. Farmers prosperous. Prices: Wheat, 60c.; oats, 27c.; barley, 48c.; apples, 45c. per bu.; butter, 29c. per lb.; eggs, 25c. per doz. Good horses high. Cattle lower, caused by many sales owing to short age of feed elsewhere. Hogs, 5c. per lb., alive. The rainy season has begun.
C. M. GRIBBLE.
Palouse, Wash., Nov. 11, 1903.

Weather has been very fine and warm, though dry. Fall plowing is very backward. Crops of all kinds, excepting potatoes, were good. Potatoes were generally blighted throughout Ontario. Farm labor is scarce, high and unsatisfactory. Dairying is the principal industry among the farmers here. Cheese has sold on the board most of this season well above 10c. per lb. Good cows are selling now at close of season, at from $35 to $40; horses, $75 to $150 each; potatoes, 90c. to $1 per bag; chickens, 50 to 60c.; fowls 70c. to 80c.; ducks, 80c.; geese, 90c. to $1 per pair; turkeys, $1 to $1.25 each; eggs, 25 to 30c. per doz.; butter, 25c. per lb.; wheat, 80c.; peas, 72c.; rye, 58c.; buckwheat, 58c.; oats, 35c. per bu.; lamb, 7 to 8c.; mutton, 6 to 7c.; pork, 8 to 9c. per lb. Apples are being freely shipped from here to the English markets and are worth from $1 to $2.50 per barrel. J. W. SUDDARD.
Cataragui, Ont., Nov. 14, 1903.

Dec. 1 is the limit in which a dollar will pay for The Practical Farmer for a year and The Practical Farmer Almanac for 1904.

Factory Price
Direct to You
We are the only general merchandise house which owns, controls and directly manages a vehicle factory. We build our vehicles from the ground up and know what's under the paint. We add but one small profit to the cost of material and labor, hence our customers are getting a better made job in a finer finish and at a lower price than can possibly be secured elsewhere.
$19.80 "LEADER" Road Wagon — imitation leather trimmed; carpet, wrench and shafts; just as illustrated. Write for further description.
$25.50 "CHALLENGE" Buggy—24 in. body, cloth trimmed; top, back and side curtains, storm apron, carpet and shafts. Write for details.
We also have better grades up to the very best and most stylish that can possibly be put together.
VEHICLE CATALOGUE FREE. Send for it today. It will give particulars about the above work. It also illustrates and describes the newest and best line of Runabouts, Stanhopes, Buggies, Phaetons, Surreys, Carriages, Carts, Spring Wagons, etc., ever quoted direct to the buyer. It explains the difference between good and unreliable work—between the hand-painted and the dipped buggy—and also explains our Guarantee of Satisfaction and
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Send a postal today for our Vehicle Cat. No. E1.
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A special circular quoting our entire line of Sleighs, Sleds, etc., will be sent at the same time, if you request it. 46

COWS WILL NOT ABORT
When they are fed
YOUNG'S ANTI-ABORTION FOOD.
It gives to the mother cow what nature requires to sustain foetal life; makes more and purer milk; no unhealthy offsprings; prevent abortion when it comes as an epidemic; 20th century discovery. Write for particulars. YOUNG'S FOOD CO., Media, Pa.

What would you do if you had a hard cold and couldn't get Ayer's Cherry Pectoral? Think it over. J. C. Ayer Co., Lowell, Mass.

World's Fair Fruits.—Stark Bros. Nurseries and Orchard Co., Louisiana, Mo., have just published a book, "World's Fair Fruits," which is the handsomest specimen of catalogue work we have ever seen. Every other page is a handsome fruit lithograph, the book containing lithographic reproductions of all the standard fruits. Would-be purchasers can thus select the varieties they wish much more satisfactorily than from the ordinary catalogues published by the nurserymen. We commend it to our readers as the handsomest catalogue of the year. In sending for it, mention The Practical Farmer.

The American Cream Separator.—There are several things which make it advisable for intending purchasers to consider carefully the American Cream Separator, advertised in our columns. First, is it's reasonable price. A man with but two or three cows will find it worth while to own it and may soon get his money back. It is not only the cheapest of all good separators, but it is simple in the extreme, and easy to run and keep clean. Last, but not least, it is a clean, close skimmer. It gives such universal satisfaction that the manufacturers, the American Separator Company, of Bainbridge, N. Y., will place it in any responsible party's hands for free trial, with no obligation to buy unless perfectly satisfied. Write for particulars to the American Separator Co., Box 1050, Bainbridge, N. Y., being sure to mention The Practical Farmer when doing so.

Spavin and Ring-bone
Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy, quick and painless. No other method sure.
Fleming's Spavin and Ringbone Paste cures even the very worst cases—none too old or bad. Money back if it ever fails. Lots of information if you write. Book about Spavin, Ringbone, Curb, Splint, Bog Spavin and other horse troubles sent free.
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SPECIAL SALE of Rambouillet rams, the mutton and wool combination. Write us for special prices and description. D. H. TOWNSEND & SONS, Townsendville, N. Y. "I know this firm and this sheep personally, and believe all to be O. K."—Dr. Galen Wilson.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

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$200 on easy payments will buy 40 acres of the best fertile land in Michigan close to market. For all a safe investment; for the poor sure independence. Write for maps and particulars. Upper Peninsula Land Co., Ltd. 848 Washington Arcade, Detroit, Mich.
References:—Cleveland-Cliffs Iron Co., Cleveland; Peoples Savings Bank, Detroit; Colonial Trust Co., New York.

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Strictly new, perfect, Semi-Hardened Steel Sheets two feet wide, six feet long. The best Roofing, Siding or Ceiling you can use. We furnish nails free and paint roofing, two sides. Comes either flat corrugated or "V" crimped. Delivered free of all charges to all points in U. S. east of Mississippi River and north of Ohio River at $2.25 PER SQUARE. Prices to other points on application. A square means 100 square feet.
Write for Free Catalogue No. 224 on material bought from Sheriffs' and Receivers' Sales. CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., Chicago.

$13.25 for this Tilting Table Wood Saw. Saws any kind of wood. The frame is made of the very toughest seasoned oak, shaft of cold rolled steel, set in extra long boxes carefully babbitted, all castings and wrought iron parts extra heavy. In addition to the regular bracing we have added a heavy cast iron brace, tieing the four upright timbers together. This is a feature not used on any other machine. It adds strength and with this construction THE FRAME IS SOLID AND STEADY, balance wheel is heavy, weight of machine is 300 lbs. Made to drop wood to right or left. We guarantee this machine to be the strongest and best saw frame made and if you don't find it equal to machines retailed for $20.00 to $25.00 and all we claim for it, return at our expense. Price 24 in. saw, [illegible]; 26 in., [illegible]; 28 in., [illegible]; 30 in., [illegible]. Don't buy saws of any kind until you get our new implement catalog. It tells all about speeding saws and gives all kinds of information. It's the most complete book on implements ever printed. CUT this ad out and send it to us and we will mail the catalogue FREE.
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You Are to Be the One

To say whether it is or isn't; whether you will or you won't; whether we are RIGHT or wrong. We leave it TO YOU entirely, for YOU to decide. The only evidence we want to submit is a dollar package of VITÆ-ORE, which package we want you to USE, and at our risk.

All we ask is a FAIR VERDICT. We say, if you are sick that VITÆ-ORE WILL CURE YOU. We say that ONE PACKAGE will PROVE to you that it is the remedy for your case and condition. If it does not, YOU TO BE THE JUDGE, we want nothing from you.

READ

Our Special Offer:

WE WILL SEND to every subscriber or reader of The Practical Farmer, a full-sized, $1.00 package of VITÆ-ORE by mail, POST-PAID, sufficient for one month's continuous treatment, to be paid for within one month's time after receipt, if the receiver can truthfully say that its use has done him or her more good than all the drugs and doses of quacks or good doctors or patent medicines he or she has ever used. Read this over again carefully, and understand that we ask our pay only when it has done you good, and not before. **We take all the risk; you have nothing to lose.** If it does not benefit you, you pay us nothing. We do not offer to send you a free sample to last three or four days, but we do offer to send you a regular $1.00 package of the most successful curative medicine known to the civilized world, without one cent of risk to you. We offer to give you thirty days to try the medicine, thirty days to see results before you need pay us one cent, and you do not pay the one cent unless you do see the results. **You are to be the judge!** We know that when VITÆ-ORE has put you on the road to a cure you will be more than willing to pay. We are willing to take the risk.

What Vitæ-Ore Is. Vitæ-Ore is a natural, hard, adamantine, rock-like substance — mineral—ORE—mined from the ground like gold and silver in the neighborhood of a once powerful, but now extinct, mineral spring. It requires twenty years for oxidation by exposure to the air, when it slacks down like lime and is then of medicinal value. It contains free iron, free sulphur and free magnesium, three properties which are most essential for the retention of health in the human system, and one package—one ounce—of the ORE when mixed with a quart of water, will equal in medicinal strength and curative value 800 gallons of the most powerful mineral water drank fresh from the springs. It is a geological discovery in which there is nothing added or taken from. It is the marvel of the century for curing

Rheumatism, Bright's Disease, Blood Poisoning, Heart Trouble, Dropsy, Catarrh and Throat Affections, Liver, Kidney and Bladder Ailments, Stomach and Female Disorders, La Grippe, Malarial Fever, Nervous Prostration and General Debility,

as thousands testify, and as no one, answering this, writing for a package, will deny after using. Vitæ-Ore has cured more chronic, obstinate, pronounced incurable cases, than any other known medicine and will reach such cases with a more rapid and powerful curative action than any medicine, combination of medicines, or doctor's prescription which it is possible to procure.

Vitæ-Ore will do the same for you as it has for hundreds of readers of this paper, if you will give it a trial. Send for a $1.00 package at our risk. You have nothing to lose but the stamp to answer this announcement. We want no one's money whom Vitæ-Ore cannot benefit. You are to be the judge! Can anything be more fair? What sensible person, no matter how prejudiced he or she may be, who desires a cure and is willing to pay for it, would hesitate to try Vitæ-Ore on this liberal offer? One package is usually sufficient to cure ordinary cases; two or three for chronic, obstinate cases. We mean just what we say in this announcement, and will do just as we agree. Write today for a package at our risk and expense, giving age and ailments, and mention this paper, so we may know that you are entitled to this liberal offer.

"Out of the Jaws of Death"

Cured in One Month's Time a Serious Kidney and Rheumatic Trouble.

Was Broken Down, Disheartened and Almost Helpless.

READ what Mr. M. V. Estes, of No. 8 Trinity Street, Atlanta, Ga., who answered our advertisement and received a package of Vitæ-Ore on trial, says of the medicine:

ATLANTA, GA.—When I look back at my condition and suffering during recent years, and think of the herbs, roots, barks, tinctures, powders and liniments I have taken and rubbed with, all to no purpose, and that I was cured at last in one month with **Vitæ-Ore**, I stand dazed and amazed at the result. Indeed, I feel like exclaiming with Mr. Richardson (a correspondent of the New York Herald), on closing an account of his escape from a confederate prison during the late war between the States, **"Out of the Jaws of Death, Out of the Mouth of Hell!"**

Thirty years ago I contracted a desease of the Kidneys and commenced passing gravel from them, the pain often throwing me into spasms. Those only who haved passed through this ordeal can give an idea of the suffering connected with it. These spells continued at irregular but frequent intervals, down to a month ago. During all this time my urine was highly colored, sometimes profuse and sometimes scant, but at all times charged with a yellowish, albuminous brick-dust deposit.

About three years ago I was attacked with Rheumatism in my right hip joint, knees and the muscles all over my body. Physicians told me I had Diabetes and marked symptoms of Bright's Disease and commenced to dope me with mercury, soda, lithia, salicylic acid, potash, etc., all of which were constantly constipating me, and nearly everything I ate disagreed with me. You can well imagine my condition and state of mind. I was broken down, disheartened and helpless.

By chance I had placed in my hand a Chicago paper containing an advertisement of **Vitæ-Ore**, and, like a drowning man, I caught at it, sent for it, and it has proved to be the "Oar" that enabled me to paddle my frail barque into the haven of health. I used the ore in hot water, and it commenced to benefit me from the first dose. In four days I saw a marked change for the better, and so wrote you. My urine became cleared up and natural in color. In six days the brick dust deposit was gone. My bowels became regular. I could eat what I wanted, and what I did eat did not hurt me and was perfectly digested. I slept soundly at night without those terrible hallucinations that had haunted my slumbers so long; but, best of all, the pain was leaving my suffering limbs. I could walk without crutch or stick.

Now after taking a dollar package of **Vitæ-Ore**, I say I am better in health than I have been in thirty years. All this wonderful change in my condition is due to the virtue contained in one ounce of Ore taken from Mother Earth. Would that I could impress upon every one suffering with Kidneys, Stomach, Liver, Rheumatism, etc., what I know of the virtues of **Vitæ-Ore.** Take it according to directions, but always in hot water, and you will not be long in joining with me in singing the praises of **Vitæ-Ore** and praising Theo. Noel for his efforts in introducing this grand boon to suffering humanity. Theo. Noel's name should go down to posterity side by side with that of Harvey, one for discovering the circulation of the blood, the other for unearthing Nature's means of purifying it.

M. V. Estes

Re-affirmed One Year Later.

ATLANTA, GA.—My faith in **Vitæ-Ore** grows stronger every day. I suffered with Kidney trouble for years and never got any relief until I used **Vitæ-Ore**, that did the work, and I am still well. Can get insurance on my life in any company that accepts men of my age.

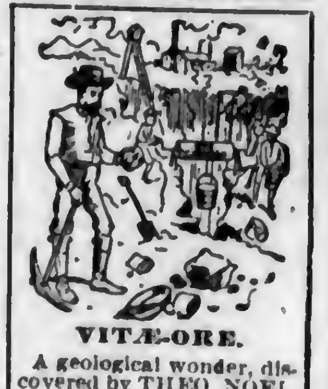
M. V. ESTES.

Permanent Cures

In making the claim a quarter of a century ago that **Vitæ-Ore** is the best thing in, on or out of the earth for sick, ailing or suffering people, we made it unreservedly and unqualifiedly, without any stipulation or "saving clause," knowing from our experience and from the experience of the few who had already used it at that early date, that its virtues and curative properties would fully substantiate this claim; that it was the best, not only because it gave relief from pain and the effects of disease, but that it **cured** the disease, and cured it **effectually** and **permanently**, hence the reason for the lines we have so often used in our advertisements and literature: **"Get cured and stay cured"** and **"Not only immediate relief, but a permanent cure."** Too many preparations are put on the market and advertised to give **relief**, too few to **cure**.

The test of a medicine is not so much in the experience and immediate testimony from the use of one package or bottle, but in the experience of people written months or years after they have used that one package or bottle, and who testify that it cured them at that time, and that they have never had a recurrence of the malady. How many of the testimonials you see published in the papers of the land are such testimonials, how many testify that they were and are **permanently cured?** Vitæ-Ore has thousands upon thousands of such experiences to its credit. It has been before the public for a quarter of a century. It cured numerous people right after its first introduction, and they have remained cured and are **cured to-day.** It is curing people by the thousands today of all manner of diseases, who will still be cured at a date a quarter of a century hence. We have repeatedly received letters from people who wrote us testimonial letters years ago, now saying that they have had absolutely no return of the trouble or troubles.

Vitæ-Ore strikes the disease at its root, entirely eradicates every vestige or trace, and the patient is **cured to stay cured.** Its cures are permanent, and for this reason it itself is a permanent remedy, one that has come to stay, that will grow in popularity and sell more rapidly from year to year, always curing with a permanent cure, always satisfying, always selling.



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A geological wonder, discovered by THEO. NOEL, Geologist, and mined from the ground like GOLD AND SILVER.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Some Hints About Tile Draining.

J. E. French, Curve, Va., writes The Practical Farmer that since he has been a subscriber he has not seen much about tile draining. He says: "I would like to put in some drains this winter and would be thankful for explicit directions that anyone can understand. How long should the tiles be, and what size; how deep should they be laid and how far apart on slightly rolling land, and should the upper ends be left open, etc.?" The usual length of tiles here is about 12 inches. I have seen longer ones, even up to 2 feet. But short ones are the best. In digging a ditch to lay them in it is almost impossible to get it perfectly straight always. And then tiles usually warp some in burning, if they are burned hard enough to last. They are not perfectly straight. These imperfections of tiles and the grooves to lay them in can be overcome best by having tiles short. One can make better joints where ends come together. With tiles only a foot long I rarely found it necessary to cover any joint. By turning the tile one can nearly always find a way that it will fit closely enough. Once in a while I would lay a tile aside and try another one to get a better fit. But one need not do this often, except when laying around a curve. For such places I always saved up the tiles that were bent the most in burning. The size of tiles needed depends on the amount of water they will be called on to carry and the fall in the ditch. The greater the fall the smaller the tiles may be, as the water will run away faster. On very flat land it may be best to not lay any tiles less than 3 to 5 inches in diameter; on rolling clay, with abundant fall, 2 or 2½-inch tiles will do all right in lateral drains. We used 2-inch tiles for all laterals, and with entire success in every case. But our side drains are not very long. It is better that the tiles be small enough to run entirely full in a very wet time, as this cleans them out thoroughly. And still they should be large enough to take the water off before injury is done to the crops. The size of mains depends on the amount of water that may flow down the depressions where they run. By watching this in a very wet time I was able to judge pretty well how large a main was needed. Make it large enough. The more perfectly the tiles are laid the more water they will carry. Irregular laying makes more friction on the sides, as you can see, and this retards the flow. A good average depth is from 2½ to 3 feet. Of course, in draining irregular land, the depth cannot always be the same. In going through depressions I laid some tiles only about half as deep as this, because it was not practical to do better. By being careful to lay only hard burned tiles in such shallow drains they will not be likely to give any trouble, but, of course, they will not drain the land as thoroughly. In other places we cut through banks sometimes so the drains were considerably more than 3 feet deep. The distance apart for drains depends on the depth they are laid and the character of the land. The deeper they are the further they will draw, as a rule. With a clay subsoil that holds water almost like a jug, and with drains 2½ to 3 feet deep, about 2 rods apart will give the best results. Where the earth is more porous, so water will work through better, 3, 4 or even 6 rods apart may do. Sometimes water readily works through the surface to a depth of 2 feet or more, but the hard pan below keeps it from soaking down. So when the soil is saturated with water it becomes stagnant and the surplus can only get away by evaporation. Drains may draw 4, or possibly 6 rods, under such circumstances. The upper ends of drains should never be left open for ordinary land drainage. Put a stone over the open end of tile, closing it as closely as you can. Water should not flow directly into a tile drain. It should soak down into the soil all over evenly, and then as a surplus accumulates and gradually rises it should work into the drains through the joints between the tiles and from the under side. Never allow water to flow directly down from the surface into the joints between the tiles anywhere along the drain. It is wasteful of fertility, and the sediment it carries may soon stop up the drain. Occasionally one may want to take an excess of surface water from an uncultivated field above, or a neighbor's land, or the roadside, directly into a drain, thus carrying it under his cultivated field. This when there is too great a volume of water to soak into the tiles in the regular way. There is a simple, cheap and perfect way of doing this described in "Our Farming" that can hardly be improved on. It came to the writer as a happy inspiration many years ago when he had such a drain to put in and not one cent to spare. The invention was born of necessity, but has never failed to do perfect work and never can. Study the description and drawings carefully and get it in right.

Now, friend French, let us see what we can make of your "etc." question. Lay no tiles that are not burned hard enough to ring clearly when you strike two together. Soft tiles may not last; hard ones will. If you can get glazed tiles, all the better. I used some of them. Look through all tiles yourself just before laying them, to see that there is nothing inside to obstruct the flow of water. Sometimes they may be imperfect inside, or you may find that mice have made a nest there. Remember that water runs down hill and dig all ditches so water will flow evenly and uniformly from end to end before putting the tiles in. Do not get a single spot too low. If there is a low place in the tile drain, sediment will accumulate in it; if the flow is down an even grade, it will all be washed out clean. This is common sense, you see, but hundreds have failed with drains because there were low places here and there. The drains soon fill up. There are simple laws that govern tile draining and one must work in accordance with them, or have trouble. If you get a place too low, and you cannot readily dig the rest of drain down to it, you can fill up that place with clay, if it will stay and hold the tiles up, or do as I have when a spot was low and soft, lay a size larger tiles through that place. If you are laying 2-inch tiles, for example, and get a spot down an inch too low, lay 3-inch tiles through this place. Then there will be 2 inches left above after the low inch has filled with sediment. This it will do and then you will have an even flow of water. Put your mains in the lowest places where water naturally gathers and runs away, where it is practical. Lay the side drains the way the water naturally runs to the mains, as nearly as you can. Lay all tiles in a groove cut in the clay, so they will be solid and cannot get out of place at all. Put 3 or 4 inches of clay over them and tramp it down tightly each side of and over the tiles. Do this with your feet, carefully, but thoroughly. The other filling may be done more carelessly. I usually found it best to shave off clay from the sides near the bottom, with a spade, walking along on the surface, to put the first coat over the tiles. What clay you have thrown out may be in chunks or lumps. Never trust the eye for fall in ditches. Dig them in a wet time and they will dig easier by far, and then there will be water running in the ditch that you can grade by. If for any reason you have to do some digging when there is no water running, draw some in a barrel on a stone boat to use. Pour some in the upper end of a ditch and watch it flow down through. This for rolling land like yours, friend French. It does not take a great deal of water, and then you have a sure thing. It is folly to go to all the expense of getting tiles and digging ditches, and then for want of a little care in getting the grade right, and in laying, to have the drain fail to work after a few years. This often occurs, however. There isn't any need of it. A thorough job will be a source of pleasure and profit for all time.

Health Hints. — The Way to Cure Constipation.—The editor of one of the leading journals, a man with a national reputation, wrote me on Jan. 6th as follows: "Your 'Health Hints' are interesting and instructive; but I do not see how you can make such a statement as you did in a late issue, criticizing a man for regularly taking pills for constipation. How can you know there are not people who must take cathartics? All are not alike and what may be bad for one may not be for another. What diet would you advise for one troubled with constipation? It is my opinion, however, that there are those that no diet will cure. I have taken a mild cathartic every day or two for years. Am 59 years old and in better health than ever before." I am not asked to withhold the name, but prefer to do so. Now another letter from a hired man working on a farm: "I have been troubled with constipation all the season. I have eaten graham bread and other things that I thought would stop the trouble, but often my bowels would not move for two or three days at a time. At last I went to the doctor and he gave me laxative tablets. I take one every morning and sometimes at night also. I do not like this taking of pills. They cause pain in my stomach and bowels, and give me a headache, but what can I do? I am in a corner. I work hard daily." Here we have a man along in years and following a sedentary occupation, and a young, active man, working out of doors, both troubled in the same way. First, no trouble of this kind comes without a cause. It is an unnatural condition. Remove the cause and the trouble will disappear, unless the bowels have been hopelessly ruined with drugs. Truly, some are more inclined by inheritance and occupation to constipation than others are. But if one depends on laxative pills to move the bowels he will surely weaken them and make them less and less able to move themselves, in a natural way. And in time it will take more and more of the poison to cause a movement. These are facts, beyond question. The action of laxative medicine is to rouse up bowels made sluggish by improper food, inactivity, etc., to throw off what they know to be poison to them. Any physician may prescribe this for a temporary emergency, although an injection of warm water into the bowels is a safer plan. But the best physicians in the world will tell you not to depend on such makeshifts for regular use. It is throwing the machinery of life out of order. One may, surely, feel far better than when troubled with constipation; but if he lives long enough he has worse trouble ahead. I have letters from friends who have got where the most powerful drugs will scarcely move the bowels at all, and to whom life is a burden. There can be no absolute rule given concerning the food to be eaten where one is troubled with constipation. The same article of food will sometimes have a different effect on different people. But, in general, the eating of graham or whole wheat bread regularly, and of other whole wheat and oat products, and of fruit and vegetables, and the drinking of all the soft, pure water you want, will answer the purpose. This in connection with proper living in other respects, of course; that is, taking sufficient exercise, breathing pure air, eating wholesome food only, and in moderation, chewing it very thoroughly, etc. The writer used to be troubled this way by inheritance and from spending so much time at his desk: but for years now, has not been for a single day. He eats partly graham bread, and fruit is taken freely each day. He avoids eating a large amount of either potatoes or white bread. Stewed prunes and figs have been found helpful. For a time he ate no other

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bread but graham, but so much is not necessary now. Years ago he could not eat white bread and milk, although very fond of this dish from his youth up. He often makes his supper of it now all right. But he takes good care of himself otherwise to the best of his knowledge, in full accordance with the hints given in these columns, and cannot tell exactly where the credit all belongs. It is enough for him to know that the cause has been removed and he has conquered; that his bowels move regularly and properly and no pills or injection is ever needed. He fully believes that practically everyone can do as well. But they must to a certain extent study their own cases. They must be persistent. In cases of long standing it will probably take months of proper living to effect a cure, and then they must continue to so live, or the trouble will come on again. If the trouble is very obstinate I would advise the trying of raw wheat. You can grind it in a good coffee mill; I did. Start with a heaping teaspoonful, or so, at a meal. Increase gradually or it may trouble the digestion for a time. This is just as good as any of the high priced wheat products. I mixed it in with graham bread and milk to make it more palatable. Chew it a long time, until it is completely pulverized. Do not grind it too fine. The effect was very decided with me.

Now, in closing, let me say that when one is constipated the waste that should pass out freely is more or less absorbed into the system by nature in her efforts to prevent a stoppage of the bowels and thus to save life. She chooses the lesser of two evils. As a result the health will suffer and troubles of various kinds come on in time. This is certain. The change may be so gradual that you do not connect cause and effect, but you are not in perfect health all the same. It is well worth your while to learn to prevent this trouble in a natural, healthful way. The short cut by way of the drug store is playing with danger. It is not a cure, simply a temporary and unnatural relief. Any man should take pride in so living as to be perfectly well and healthy.

T. B. Terry.

A Grass Report.

G. M. CLARK.

Below find report of my second and third grass crops, together with the total crop for this year, as compared with the crop of 1902. My total second crop, 1903, from 14⅝ acres was 66,212 lbs. 3½ acres, not well cultivated, produced only 2,100 lbs. or 600 lbs. per acre; 2¾ acres produced 18,900 lbs., or 6,871 lbs. per acre; ⅞ acre produced 6,518 lbs., or 7,732 lbs per acre; the balance, 7¼ acres, produced 33,690 lbs., or 5,338 lbs. per acre. First crop 1903 was 110,729 lbs.; second crop, 66,211 lbs.; third crop, 1.750 lbs. Total for three crops, 178,690 lbs. Average 12,218 lbs, which was an average of 951 lbs. per acre more than 1902 crop, which was 164,794 lbs.; average per acre, 11,268 lbs.

The total crop from ⅞ of an acre in 14 years, first and second crop, one seeding, 114 tons, 428 lbs. The surface of this field to start with, had little if any vegetable matter upon it; nothing but clay, gravel hard pan. First, it was intensely cultivated; nothing but bone, potash and nitrate of soda has been used from the start for fertilizer, at a total cost not exceeding $250 in the 14 years, or less than $2.25 per ton of hay gathered. The seeding was 14 quarts of timothy and 14 quarts of re-cleaned red top per acre. The crop this year has the same relative amount of timothy and red top as when originally sown. The most remarkable sample is from a quarter-acre section where the first crop cut this year was over 4 feet in height and weighed 2,471 lbs.; second crop cut this year was over 3½ feet in height, weighed 2,240 lbs., making 7½ feet in height. Each crop was fully headed and blossomed. The third crop did not blossom, but weighed 1,750 lbs., or at the rate of 3½ tons to the acre. The total weight of the three crops from this quarter acre was 6,401 lbs., or at the rate of 25,644 lbs. per acre; fertilizer cost less than $2 per ton. A blizzard struck 8 acres of my second crop while drying, and lifted tons of it into the adjoining forest; except for that I certainly should have had 40 or more tons, instead of the 33 tons which I secured. I have a hay press never used before this year but once. This year I found it necessary to press my first crop to get my second crop in the barn, which is 60x60x30 feet up to plate. The 5½-acre plum orchard still continues its phenomenal growth without fertilizers, making this year, as last, over 300 feet growth to the trees. The intense cultivation given it by the Clark Double Action Cutaway harrow is still doing its work and the grass crop from the same cause is giving similar results, while we had two months in the spring without any rain, yet this year's total crop, as before stated, has an average of over 6 tons to the acre, nearly 1,000 lbs. gain to the acre over last year. If your readers will send George M. Clark, Higganum, Conn., a 2-cent stamp they will get a circular telling how it is done.

Higganum, Conn.

Pea Hay in Middle Tennessee.

ROBT. GALLAGHER.

The past summer was a favorable one for the growth and curing of pea hay. I had forty acres in peas that made a yield of three tons of cured hay per acre, and it was all cured and housed in perfect condition without damage from rain, and has that bright green color so desirable in any hay. I notice that stock eat it all up clean, not leaving a vestige of it in their mangers.

I had my land well plowed and thoroughly harrowed, and during the last days of May sowed the peas with an ordinary wheat drill at the rate of one bushel per acre, letting all the spouts sow as for wheat; that is 8 inches apart. The variety was Whippoorwill, and although these are called a bunch pea, and they usually are, they were a perfect mass of running vines three to four feet deep, until in many places they bedded down from their own weight. I began cutting about Sept. 1st, and had two weeks or more of ideal hay weather—hot and dry. I let them lie on ground long enough to get well wilted and then raked and put in small shocks and let stand from three to five days, when they were in perfect condition for putting in barn. This field under ordinary conditions will make about 20 bushels of wheat or 40 bushels of corn per acre, and I used about 200 pounds of a high grade acid phosphate when sowing the peas. There was plenty of rain during the growing season and this field was probably one of the finest crops of the kind ever seen in the county. The shocks stood so thick it looked almost impossible to drive a wagon through them. I find it much less trouble to cure pea hay if it is not cut until a good many of the peas are ripe, and although at this stage some of the lower leaves shed, I think it is better than cutting too green. I expect to feed all this hay on the farm to horses, cows and beef cattle. The field upon which it was grown is now in wheat and already shows that dark green color which shows a bountiful supply of nitrogen.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Getting Clover. — W. M. Hardman, Shadeland, Pa., says that some of his land is so poor that he cannot get clover to grow on it. He is manuring it and proposes to plant it in corn and follow this with oats and sow clover, and wants to know if he can improve this land by a rotation, while he is manuring the rest of the farm, as it will be a long time before he can manure this piece again. You do not say what sort of a rotation you are following nor how many years it runs. The fault I have seen in a great deal of Pennsylvania farming is too long a rotation, and keeping the land too long in grass before starting again. The old practice of seeding down to clover and timothy and mowing for several years and then pasturing till the grass is about run out is not the way to improve land rapidly. After manuring the land you mention and growing a crop of corn on it, you will stand a better chance for a stand of clover if you will apply to the oats crop a good dressing of acid phosphate and potash, say 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre. Then when you get a good stand of clover on the land, give it a light dressing of lime the second spring after sowing, and let the clover stand but one year before going back to corn on the land, and if you cannot manure it that time depend on the clover sod for the corn, and again use the acid phosphate on the land to get a crop of wheat in the fall and clover again in the spring, with some timothy sown with the wheat, and then let it stand two years. But what you need to do is to get your whole farm into a short rotation, so that clover may come more frequently.

Alsike and Red Clover.—L. E. Girton, Sutton Creek, (no State given).—"Which is the best nitrogen getting plant, alsike or red clover, and which will stand the winter best? Would it be well to plow under the second crop of clover and sow crimson clover to be plowed under the next spring for a potato crop?" Red clover, from its heavier growth, will probably fix a greater amount of nitrogen than the alsike. Alsike is probably more hardy than red clover, and will thrive on land too wet for red clover. We suppose that you are in Pennsylvania, as we find a postoffice of the name you give in Luzerne Co. It is probable in your elevated mountain country that crimson clover will be of uncertain hardiness. If, then, you have a good sod of red clover we would rather let it alone and depend on it for the potato crop, than to plow it under and run the risk of failing to get the crimson clover. Then to sow the crimson clover as early as it should be sown in your climate you would have to plow the clover before there is much of a second growth, and there would be serious danger of souring the soil so that it would not grow the crimson clover well. Therefore we would let well enough alone and keep the red clover for the potatoes, as it will make a very considerable growth between July, the time when the crimson clover should be sown with you, and the coming of cold weather, and will probably amount to fully as much as you would get from the crimson clover, even if it should stand your winter.

Fall Plowing After Cotton. — P. E. Green, Gladstone, Ala.—"I have a 12-acre cotton field on which I failed to get a cover crop. Will the field, which is somewhat hilly, wash less if plowed deeply this fall than if left as cultivated? In case it is fall plowed, would a thorough preparation with a disk harrow be sufficient preparation for cotton next year?" Deep breaking now will have a tendency to prevent washing by furnishing a deep, loose bed of soil for the water to sink into instead of running down the cotton rows on settled land. but you have plenty of time to get a cover crop on the land and to have something to plow under for the cotton, if it is necessary to put the land in cotton again. If the cotton is now all off break the land well and bury the stalks. Then sow rye thickly and harrow it in, and you will have something to catch the soluble nitrogen during the winter, and to return to the land by plowing it under in the spring and thus help the cotton crop. But when will our Southern farmers learn the value of a good rotation of crops? In this year of small crops we can point to a field where a crop rotation has been practiced for but a short time, and a bale and a half of cotton per acre was made this year. A good rotation of crops without the use of an ounce of fertilizer is better than constant cropping with fertilizers applied to every crop. And it is not only better in crop results but cheaper. Now, if instead of cotton next season, you were to sow wheat on the land and after the wheat is cut sow peas for hay, using acid phosphate and potash on the peas, you would get a large amount of forage, and in all probability double the crop of cotton the next year. Let us get to farming and not let the high price of cotton run the South crazy and have every acre in cotton.

Some Good Crops in Mississippi.—A correspondent in Mississippi, who says that his letter is not for publication, gives some statements that are worth publication, and we hope that he will excuse the use of his letter. He is in the fertile delta of the Yazoo, on as fine a soil as exists. He says that Bermuda grass there grows 38 to 40 in. high. Our friend wants us to know that with all his rich soil he is not a single cropper, but grows pea hay and corn to feed. He pulled 80 bushels of cow peas per acre from 10 acres, and got 15 tons of pea vine hay from the same land and 40 2-horse loads of pumpkins, and the crops all grew together and did not seem to bother each other. Our friend does not say whether the 80 bushels per acre of peas were peas in the hull or threshed. If they were clean peas, this is the heaviest crop we have ever known. Some of our friends doubted some years ago our statement that we had known 50 bushels of peas from one acre, and certainly half that much is considered a big crop. This land, he says, has been growing peas since 1892, and next year he will put it in cotton. He has saved his seed corn as advised by The Practical Farmer, and has it now shocked in a shed, every stalk with two or more ears on it. He cured his pea hay, too, as we have so often advised, and everyone who has seen it says that it is the best they have ever seen. He has housed 8,000 bushels of corn and has plenty of hay to use until hay comes again, but the cotton crop was one-fifth short. In short, he says that he is trying to farm according to our advice. We are certainly glad to hear of these instances throughout the South of farmers who are breaking away from the old planting system and are farming and feeding stock. What a wonderful opportunity the farmers on these fertile soils of the Mississippi Valley have for stock raising where Bermuda eclipses the famous blue grass of Kentucky and the protein-yielding cow pea grows as it grows nowhere else. With 8,000 bushels of corn and barns stocked with hay, and cotton up to eleven cents per pound, our Yazoo friend, and his cattle and hogs have a bright prospect ahead. The Practical Farmer would like to increase his number a thousandfold or more.

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WHY SWAMP-ROOT GIVES STRENGTH.

Almost every one, from personal experience, knows that the effects of any kind of severe physical strain, are felt, first of all, in the small of the back—in other words, in those Vital Organs, the Kidneys. This is as true in the case of the very powerful as it is with one of less strength, and it is especially true whenever the kidneys are weak.

The Great Kidney Remedy Swamp-Root, strengthens the kidneys and through them helps all the other organs.

Among the many famous cures of Swamp-Root investigated by the Practical Farmer the ones we publish this week for the benefit of our readers, speak in the highest terms of the wonderful curative properties of this great kidney, liver and bladder remedy.

Mrs. H. N. Wheeler, of 117 High Rock St., Lynn, Mass., writes on Nov. 2, 1901: "About 18 months ago I had a very severe spell of sickness. I was extremely sick for three weeks, and when I finally was able to leave my bed I was left with excruciating pains in my back. My water at times looked very like coffee. I could pass but little at a time, and then only after suffering great pain. My physical condition was such that I had no strength and was all run down. *The doctors said my kidneys were not affected*, but I felt certain that they were the cause of my trouble. My sister, Mrs. C. E. Littlefield, of Lynn, advised me to give Dr. Kilmer's Swamp-Root a trial. I procured a bottle and inside of three days commenced to get relief. I followed up that bottle with another, and at the completion of this one found I was completely cured. My strength returned, and today I am as well as ever. Swamp-Root is so pleasant to take.

My business is that of canvasser. I am on my feet a great deal of the time, and have to use much energy in getting around. My cure is therefore all the more remarkable, and is exceedingly gratifying to me."

Mrs. H. N. Wheeler

MRS. H. N. WHEELER.

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Weak and unhealthy kidneys are responsible for more sickness and suffering than any other disease, therefore, when through neglect or other causes, kidney trouble is permitted to continue, *fatal results are sure to follow.*

We often see a friend, a relative, or an acquaintance apparently well, but in a few days we may be grieved to learn of their severe illness, or sudden death, caused by that fatal type of kidney trouble—Bright's Disease.

The Effect of the Sample Bottle of Swamp-Root.

"Having heard that you could procure a sample bottle of Swamp-Root, free by mail, I wrote to Dr. Kilmer & Co., Binghamton, N. Y., for a sample bottle and it was promptly sent. I was so pleased after trying the sample bottle that I sent to the drug store and procured a supply. I have used Swamp-Root regularly for some time and consider it unsurpassed as a remedy for torpid liver, loss of appetite and general derangement of the digestive functions. I think my trouble was due to too close confinement in my business. I can recommend it highly for all liver and kidney complaints. I am not in the habit of endorsing any medicine, but in this case I cannot speak too much in praise of what Swamp-Root has done for me."

43½ West High St.

W. F. Lohnes.

Springfield, Ohio, Feb. 21st, 1901.

EDITORIAL NOTE—If you are sick or "feel badly," begin taking the wonderful discovery, Dr. Kilmer's Swamp-Root, because as soon as your kidneys are getting better they will help all the other organs to health. A trial will convince anyone.

You may have a sample bottle of this great remedy, Swamp-Root, sent absolutely free by mail, also a book telling all about Swamp-Root, and containing many of the thousands upon thousands of testimonial letters received from men and women who owe their good health, in fact their very lives to the great curative properties of Swamp-Root. In writing to Dr. Kilmer & Co., Binghamton, N. Y., be sure to say that you read this generous offer in the Philadelphia Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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Live Stock and Dairy.

Factors in Swine Breeding.—I.

PROF. A. M. SOULE.

No matter how favorable the natural surroundings may be, the man who hopes to produce pork cheaply must first give attention to the development of a herd on which to build his future profits, for the foundation stock with which practical operations are commenced largely determines the success attained in the development of any phase of animal industry. Whether the herd shall consist of pure breds, crosses or high grades depends largely on circumstances. For the average farmer the high grade is the most desirable animal, because it costs less to produce, while making gains at about the same cost and almost equal in amount to the pure breeds. Some high grade sows of one of the improved breeds can be obtained in almost any locality and the small farmer can then afford to put his money into the purchase of a first-class sire of one of the improved breeds and so quickly develop a herd to meet local conditions. This method will enable him to start in the business with a small outlay of cash, a matter of the utmost importance to the farmer of limited means. There is no objection to using pure breds for pork production, but if they are of high quality they command such high prices for breeding purposes as to prohibit their use for meat production alone. Then, as a rule, the pure breds have received better care and attention than the average farmer is disposed to give them when growing them for pork.

WHAT BREED IS BEST?

As to which breed should be adopted, no definite answer can be given, for there are excellent animals in almost any of the pure breeds. Black hogs seem to give better results in the South, generally speaking, than white, and so should be given the preference unless in some of the more mountainous sections of country where the summers are not so warm. Among the breeds that have shown great adaptability and which possess excellent qualities, are the large and small Berkshires, Poland Chinas, Essex and the Duroc Jerseys. Among the white breeds the Chester White is probably the most favorably known. Any of these breeds under proper care and management will yield satisfactory profits. The boar should be the best possible and should be selected with the idea of correcting defects which may be present in the sows.

CROSSES NOT NECESSARY.

It is not a matter of grave importance as to whether the farmer should use crosses or not unless in exceptional cases. If he happens to be in a locality where the small Berkshires or Essex are the prevailing type and desires to secure a little larger or more rapid fattening hog, a cross of the Poland China sire on the Berkshire dams would give the qualities desired. Crosses, as a rule, should not be indulged in by the average farmer, unless there is some particular defect in the hogs which he desires to eradicate. One thing is certain, no one can afford to breed scrubs any longer, as they do not kill so well or mature as rapidly as the improved breeds, and in these days of close competition it is the saving of a few cents in every possible direction that enables the breeder and feeder to make a respectable profit. In localities where the scrub predominates, the introduction of the pure bred sire and a "no fence law" will quickly effect a marvellous improvement. The scrub is an unprofitable animal; he will not make more than 250 pounds, in the same time the high grade makes 350 to 400 pounds, though given the same care and attention. When sale day comes the high grade shows a quality and finish vastly superior to the scrub, hence commands a better price.

TRACTABLE HOGS NECESSARY.

Above everything, the farmer must have tractable hogs, no matter how he secures them, and it is for this reason that the high grade is strongly advocated, for these animals, as a rule, possess enough of the gentle disposition of the pure breeds to make them kindly in nature and easy to handle. The man who has the unqualified razor-back that can go under or over any fence circumstances necessitate, will not make large profits out of the hog business. The day is past when the farmer can expect to raise hogs successfully in a big wood lot to sell at eighteen months of age, and when killing day comes go out with a pack of hounds and a rifle to get the meat. To raise hogs profitably, one must get ready for the business, for it is a business, and then give them the proper care and attention, always remembering that the profits are in direct proportion to the skill, management and forethought exercised over them. Raise your own hogs; then you know what they are and what you have to deal with. You can raise them better and cheaper than any person else and everyone must come to that basis of production sooner or later, for the visible supply of range hogs or hogs held on small farms is each year decreasing and the wise man will "take time by the forelock" and be prepared to meet new conditions as they arise.

THE BROOD SOW.

In the selection of the brood sow attention should be given to prolificacy and abundant milk supply. She should be gentle and docile and have every indication of bodily vigor and strength of constitution. If raised on the farm, she should not be bred before 12 months, in order to permit her to attain her growth and full development. After 18 months of age she should be bred twice a year between February and March, and August and November. If the farrowing periods should come in March and October, the foods that might be available for the cheap maintenance of the brood sow and her young ones would be about as follows: March and April, fall sown cereals; June and July, sorghum and cow peas; August and September, cow peas or soja beans, or sweet potatoes; October and November, late cow peas, or soy beans, or peanuts; December to April, winter cereals and hairy vetch; January, February and March, artichokes and chufas; April, May or June, crimson or red clover or alfalfa. This would certainly enable the cheap maintenance of the hogs and provide them with suitable grazing crops at all seasons of the year except in extremely wet or cold winter weather. In very severe winter weather barley, wheat middlings or shorts and corn must be liberally fed, together with some chopped pea vine hay moistened and mixed with the grain. Whatever else is done a record must be kept of the breeding and time of farrowing of all the sows maintained on the farm, so they can receive that care and attention which is essential to their welfare. The sow should be fed liberally from the time of breeding until near the farrowing period, having the freedom of the pastures, as indicated above, that should be available at the season of the year when she is bred. In addition, she should receive some grain, except in very rare cases. The grain would preferably be some combination of shorts, bran, wheat meal, barley meal, soy bean or cow pea meal. It is very necessary that the sow be well nourished while carrying her young, as the strain on her system then is very severe and the nourishment she receives will largely determine vigor of her offspring.

TREATMENT AT FARROWING.

Several days before farrowing the brood sow should be put in a pen by herself and given some laxative, cooling food. After farrowing she should receive warm water and bran mashes for several days, until all danger of milk fever has passed. After that she should be fed liberally on bone and muscle-producing foods, as her milk flow is dependent on this and will in turn measure the vigor of her offspring. Feed her on kitchen slop to which has been added a meal ration consisting of shorts, bran and barley in equal parts. Many other meal mixtures might be used, as the one suggested will not be available in all sections of the country, and must be modified to suit local conditions. Whether the farrowing takes place in the fall or spring, an abundance of succulent pasture should be, and can be, available throughout the whole South. Exercise is necessary for the young pigs in order that they may be strong and healthy, and so it is important that they be put on the range as soon as possible. If the farrowing takes place in the fall and the winter season is particularly wet and cold, the pigs should be housed and well fed. Do not allow them to become stunted at any season of the year through meagre food supplies. This is simply a waste of money, not only destroying the value of the litter, but permanently injuring the dam as well.

Tennessee Experiment Station.

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Hog Raising in the South.

P. C. MITCHELL.

Three years ago I began to raise a few hogs in my lot with mules. I first tried one thoroughbred Poland China sow and a thoroughbred boar, but I have done away with the thoroughbred sows and keep from one-half to three-quarters sows and thoroughbred boar, and I think that I have the best hogs I ever saw. I have never lost one from sickness, and they are easy to keep growing and the butchers will pay more for them than for the thoroughbred hogs.

The thoroughbred sows stay so fat that they do not have pigs enough to pay for the keeping of them. I have 50 hogs to sell that will bring about $450 by Jan. 1st. I find ready sale for them to local butchers at 5½ to 6 cents, on foot. My hogs get the waste from a lot where 20 mules are fed, and have a 10-acre Bermuda grass pasture, with a bayou running through it, to graze on. I let them on pea patches as soon as corn is pulled in September, and feed all the pumpkins they can eat from then until I sell. My hogs have not cost me $50 besides the fencing of corn and pea fields, the greatest expense being hauling pumpkins. It takes very little feed for a hog on good Bermuda pasture.

Mississippi.

Stock Query.

Running a Milk Farm.—Am running a milk route in a village of a little less than 1,000 inhabitants; have a retail trade which takes the milk from about 15 cows, and brings in an income of about $14, gross. Would like to keep more cows and do a larger business, but my market will not justify. Have a chance to rent a farm near a town of 5,000 inhabitants where there is but one dairyman and he cannot supply the town with milk. Am confident I could keep 20 cows and sell $2,000 worth of milk from them per year, and the rent of farm—80 acres—would cost me but $350, with good house and stabling for 50 head of cows. House and barn join right up to town. It is a good grass farm. It has two silos. Now the question with me is, would it pay me to either hire a foreman to run my dairy at home or let him run it on shares and me start another dairy in this town? Have a surplus of cows, which would help stock another farm, and which will have to be sold if I do not rent more land, as I have but 96 acres and have 40 head of Jersey cows and heifers. Milk sells in this town at 7 cents per quart in winter and 6 cents in summer. Have been retailing milk for ten years and understand the business. Should I make the change would you hire a foreman to manage your home dairy or let him have an interest in it? Want to make the change for not longer than five or six years and then return to my farm. Am in need of more money than I can make with a small dairy.

Stanton, O. JOHN NOWLIN.

(Reply by Prof. A. M. Soule.)

The problem presented in your letter is rather a difficult one to answer. The dairy business, as you know, is one requiring the closest personal attention, and there are comparatively few men that the writer has ever seen who will take the same interest in the business as the owner. Cows must be fed and milked regularly if the present satisfactory income is to be maintained, and so the whole question resolves itself into the practicability of finding a man who is competent and reliable to look after your small herd while you give your personal attention to the larger herd. With the equipment and the natural advantages possessed by the farm you propose to rent, there is every reason to encourage you in leasing it for a period of five years and building up a very satisfactory business in the larger town of which you speak. Certainly with good management and the number of surplus cows you have on hand at the present time to start operations on a larger scale, you should be able to make a good profit. On your judgment in selecting a foreman will depend the success of your joint enterprise. In the opinion of the writer it would be better to give the individual an interest in the business rather than to employ him as a foreman. When a man has an interest in anything and it means dollars and cents to him personally, he is more likely to give it better attention than he otherwise would. It is not likely that from a financial standpoint it would make very much difference to you whether you hired him as foreman or gave him a sufficient interest in the business to enlist his best services. As you say you are situated so you can visit your farm once or twice every week and in a measure give it your personal attention, there is no reason why you should not be able to run the joint enterprise in a satisfactory manner. The measure of success in business depends on skillful management, which calls for the most intelligent supervision of the work. There is no more complicated business than the dairy business; there is none requiring the exercise of greater judgment or skill or closer attention to details, and if you can arrange to give the business your personal supervision and place your smaller farm in the hands of a competent foreman, there is no reason why you should not make a success of the enterprise you have in mind.

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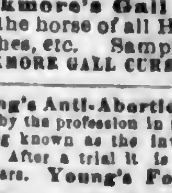

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Impaction.—Can you tell me what ailed my heifer, and if anything could have saved her? About a week before she died she became dumpish, and would not eat; did not seem feverish, nor in pain; her bowels did not move, so we gave her one and a half pounds of salts; that did not move her, so gave her an injection of about 8 quarts of soapy warm water; still her bowels did not move. She did not seem to be in pain until about two hours before she died; was bloated but little. After she died I opened her and her intestines were grown fast to her back and sides; her gall was twice as large as it ought to be and had overflowed.

President, Pa. PERRY MCCALMONT.

It would be possible to find adhesions such as you describe if animal had been suffering from peritonitis, but you do not give a history that would make such a diagnosis certain. It would appear most probable that she was troubled with impaction of the stomach or intestines, and when one physic failed to move the bowels another should have been given, or a good dose of castor oil with the addition of a few drops of croton oil might have produced the desired effect. Impaction is usually due to long continued feeding on coarse, dry fodder without abundance of water or succulent food to keep the bowels moving.

Worms.—What can I do for turkeys that pass short, flat headed worms similar to those that are voided by dogs; also some have passed tapeworms. Can you describe contagious pneumonia, tuberculosis in swine, swine plague and cholera, without taking up too much room? I think my hogs have had all of them. They mostly die, as well as nearly all of the others in this section of country.

Burnetts Creek, Ind. C. E. GIRARD.

You can obtain bulletins upon all of these subjects by addressing a letter to the veterinarian of the State Agricultural Experiment Station at Lafayette, Ind. Make it a practice to mix a little dried sulphate of iron in feed and drinking water for turkeys two or three times a week when you see signs of worms.

Leucorrhoea.—I have a mare that I traded for some months ago, with a view of breeding her, and did so, but she would not stand. She is about 10 years old and I don't think ever had a colt. Ever since I had her she has been constantly passing in great streams, a most offensive smelling fluid that renders it impossible for her to retain her flesh. HORACE COWAN.

Cowan, Tenn.

The mare is troubled with leucorrhoea or "whites," and will not breed until this disease is cured. It will be necessary to wash out the womb and vagina once daily for two weeks with two gallons of warm 2 per cent. solution of permanganate of potash, after which, unless discharge has ceased, substitute half a gallon of warm water in which dissolve half an ounce of tannic acid. Wash out by means of a half-inch hose and funnel or veterinary force pump. Night and morning give her one-half ounce of a mixture of equal parts fluid extract of ergot and hydrastis canadensis. Keep her in roomy box stall when in barn, but have her worked or exercised every day. Feed generously on oats, bran, roots and hay.

Throat Abscesses.—1. Two years ago I had a Jersey cow that had a lump under left ear. I put on iodine, which seemed to check its growth for a time, but in about two years the lump got to be about double the size of a goose egg, and the cow coughed a great deal. I killed the cow and cut out the bunch, when I found a smaller one which seemed to crowd the windpipe, which probably caused her to cough. The tumors were hard, with a yellowish cheesey matter inside. I have a 2-year-old heifer that has exactly the same thing; started about the size of a hen's egg. Can I do anything to cure it? 2. I have a pair of 3-year-old colts which weigh 2,300 pounds; in fine condition, just off pasture. Will you please tell me what and how much to feed to have them do their best? Is there any danger of overfeeding a colt?

Dushore, Pa. LEWIS B. ZANER.

1. Abscesses referred to are either due to tuberculosis or actinomycosis (lumpy jaw) and should be cut into for liberation of pus. In valuable animals or milch cows we prefer to first test with tuberculin, and if this does not show the presence of tuberculosis, operate as suggested. The location is a dangerous one, and it would be best to employ skilled help in operating. 2. There is great danger of overfeeding at first. Gradually bring them to full feeding and let the food be sound, old oats and bran along with first-class hay. They may also have carrots and a little corn in addition to other food during winter. Exercise daily is imperative. Give a soft bran mash once a week. Eight quarts of oats daily along with three or four quarts of bran fed at three feeds should prove good feeding if exercise is allowed. They will require from 14 to 16 pounds of hay daily.

Suspicious Case.—Can you tell me what is the matter with my horse? We have had him two years, and when we got him was all right. When he tries to make water he seems to have to wait so long before he can make water, and then he will grunt and groan. His stomach will roll as if full of water or wind, especially if you rub his stomach. He has a discharge from his nose as if he has a cold, but not all the time. When you let him stand an hour and start to drive him he will cough.

Warren. SUBSCRIBER.

There is so much in your description of this case to suggest glanders that we would strongly advise you to have the horse examined by a qualified veterinarian. Meanwhile keep him quarantined and clean up, disinfect and whitewash the place where he has been kept. Straining to urinate indicates the presence of a stone in bladder, which might, with chronic indigestion, give rise to most of the symptoms noted. We are unable, however, to advise you how to treat the case personally, as expert assistance is plainly necessary.

Abortion.—I have a mare that was with foal up to the 15th of November. From the 3rd of July she has had a colt by her side this summer, but he is weaned. She is thin in flesh. Can you tell me what was the cause of her dropping the foal? I have been plowing with her for the last week, and have been feeding her four quarts of oats and four ears of corn and some carrots three times a day. Will carrots do to feed a mare with foal? N. E. CHAPIN.

Jefferson, O.

Mare has probably been worked too hard at plow when weak from nursing foal. She should have had a rest and generous feeding to prepare her for plowing, and the latter work is scarcely suitable for pregnant mares unless of a light character and mare is in good muscular condition to stand the work. Carrots if fed in small quantities until mare is accustomed to them do not tend to produce abortion, but are useful in keeping bowels in proper condition. To feed a large quantity of carrots suddenly might, however, cause abortion by inducing an attack of indigestion or diarrhœa.

Grease.—Last winter I got a mare (a heavy draft English Shire). When I got her she had very sore front legs, the back part from the knees down nearly to the first joints. The man called it scratches. The mare had been used on a threshing machine and then on a hay press and at times in the mud up to her knees. The legs discharged a yellowish, bad smelling stuff. Her blood was gotten out of order by taking her from pasture and putting her to heavy work and over feeding on new oats. The mare is with foal now and I am very anxious to take her through the winter all right and raise a colt. SUB.

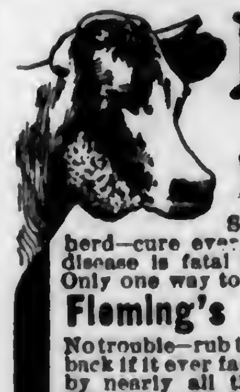
Dorset, O.

The mare is afflicted with chronic grease and should not have been bred, as the tendency to this disease is hereditary. It will be next to impossible to treat her successfully while in foal. Treatment consists in withholding grain and feeding bran mashes, roots and hay. Work or exercise is to be given daily and she should have Fowler's solution of arsenic in tablespoonful doses twice daily for a week, then three times daily right along until well, when this medicine is to be very gradually discontinued. Poultice legs with hot flaxseed meal twice daily and in each poultice mix two tablespoonfuls of powdered wood charcoal and two drachms of carbolic acid. Continue poulticing until all discharge ceases, then wet legs often with a solution of two ounces of sulphate of zinc and two ounces of glycerine in a quart of water. Exercise and light diet are the main things in the treatment of this disease, and to avoid the trouble heavy grain feeding and idleness are to be avoided; also dirty, badly ventilated stables and dirty or damp condition of legs. Better postpone internal treatment until birth of foal. Other measures advised can be carried out while in foal.

Indigestion.—I have a horse about 9 years old that is in very bad condition. He is hidebound and looks like a horse that is wormy. I have noticed him eating dry dirt, and at times his bowels get loose; the actions look as if they are mixed with a gluey substance resembling that of slime. After being driven any distance he won't eat enough in two or three days to feed a hardy horse one meal. Up to 12 months ago he was a spirited horse and a good driver, too, but since he has been affected is very dull, don't want to go and the drive jades him very much.

Grafton, Va. P. A. WHITE.

Have horse clipped if coat is rough and long. Also have his teeth put in order by a veterinary dentist. If worms are the cause of indigestion you will note a thick coating of scurfy matter about the anus. In that case starve the horse for 18 hours then give him at one dose two drachms of santonine, one and a half ounces of turpentine and one pint of raw linseed oil well shaken together and administered slowly and carefully as one dose. If the bowels do not move in 24 hours after giving this dose give half the amount of oil and turpentine as a second dose, but do not repeat the santonine. After the medicine has operated give him a tablespoonful of Fowler's solution of arsenic twice daily for ten days, then if not doing well and "fur" still shows about anus (after having been washed off the day previous) repeat worm drench as above and then go on with the arsenic for a month. Do not stop the arsenic suddenly when horse is well, but decrease gradually.



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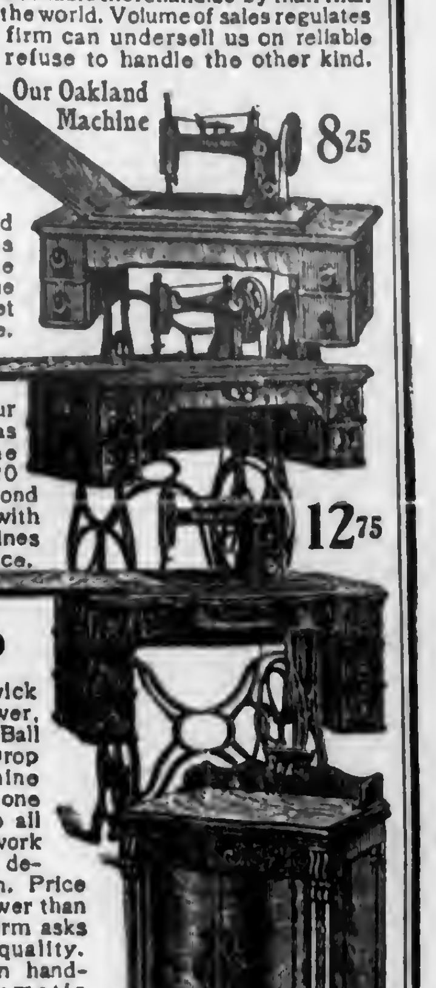

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

More About Hotbed Making. — For early operations, especially in plant growing, hotbeds must be made very early in spring, or rather during the tail end of winter, and often while the ground is yet deeply frozen. For new hotbeds, preparations should always be made in the fall. Of course, hotbeds can be made, and are being made by many growers, entirely above ground. The manure is spread directly upon the ground surface, say four or five feet in width, and in quite a deep layer, and the frame is placed upon this. But, for very early work, the only safety lies in making the bed lower down, excavating the place for the manure, even if not more than three feet in width, and putting only the frame and the hotbed soil above the general surface of the ground. If such an excavation will be needed next February or March, it must be made now in order to save digging into the frozen ground then. A writer in the Rural gives his plan for making hotbeds this fall as follows: "We have plenty of sunny exposure with good drainage, and ample protection from north and west. We shall excavate two feet in depth and set in posts of 2x4, or heavier, four for each side. These will extend six inches above the surface on the south side and one foot above on the north. This gives us at least 18 inches manure space, which is none too much for cold weather and long use, and still ample room for soil and plant space. Of course, these are lined up with plank preferably, although good inch lumber will do very well. The work is far easier done this fall than in the winter, and if well covered up they are ready for use at any time. Thus constructed they are the most satisfactory of any I have used, and are easily protected so that they make good storage room for cabbage, parsnips, etc."

Hotbed Soil.—Another thing to be attended to, in this connection, is to prepare the hotbed soil, and store it where it can be had easily when wanted. I have usually filled a lot of soil under the benches in the greenhouse. But when you have no greenhouse, nor other frost-proof place of this kind, you may have to put it into the cellar. Or, possibly, you might find a chance for safe storage in the manure shed. Clear the manure off, and make a spot on the ground, where manure is to be thrown afterwards, then pile the soil as prepared ready for use, upon the ground, in a big square or conical heap, and then throw on the fresh horse manure as made during the winter to heat. The soil will remain unfrozen underneath, and can be gotten out whenever needed. As to the preparation of soil for such purposes, I have often stated that it should be varied according to our special purposes. For growing onion plants, some of the best things I know of is clear river sand, say two inches, resting on a layer of old compost. For cabbage plants, the best thing, in my experience, is common garden soil, not too loose and not too rich, or, still better, a compost made of clover sods, or sods from an old pasture. For tomato plants, such soil is also good, or it may consist of a mixture of ordinary soil and fibrous sod compost, or any kind of soil with a portion of muck or leaf mould. We don't want such soil excessively rich. For growing radishes under glass, we want a very rich sandy loam, or a mixture of sand and muck made very rich by additions of old compost or chemicals. For lettuce forcing we want an extremely rich loam which may contain quite a large proportion of clay. The addition of chemical plant foods for any of these crops seems to be always safe, especially if we don't use too much nitrogen (in nitrate of soda) for growing plants which we desire to be short and stocky rather than succulent and spindling. Good judgment is required in all such matters.

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Current Comments.

Field of Beans. — A correspondent asks me how many quarts of pole lima beans he ought to secure on soil yielding 30 bushels of corn per acre, applying ten loads of manure, and 1,000 pounds of a fertilizer mixed especially for beans. Also what would be a fair yield of Golden Wax Cluster pole beans, dried, per acre? Such questions are often addressed to me. But so much depends on season, cultivation, management, etc., that the answer can only be a rough guess. Under favorable conditions, a yield of 30 bushels of dry limas, or Golden Wax pole beans, are possible. But in field culture, with poles as support for the beans, a very much smaller yield will be the probability.

Fertilizers for Hothouse Lettuce.—W. J. Ritterskamp, of Princeton, Ind., writes: "Is there anything in the way of chemical manures to grow lettuce within the greenhouse? I have a very porous peat soil and mix that with sand and loam. It makes a very light soil without the addition of sifted manure. Could I use ashes, rock phosphate and nitrate of soda to any advantage?" If the soil contains humus enough to make it light already, it is quite possible to grow good crops of lettuce in greenhouse with chemical manures. Ashes and bone meal might be used quite freely; superphosphate, and especially nitrate of soda more sparingly. It has been found, however, that lettuce will usually do much better when the soil consists largely of loam than when it is too porous and loose. This has been also my personal experience. In the use of chemicals for greenhouse crops we must always proceed cautiously and experimentally.

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Notes from a Carolina Garden.

November 18th.—We now have growing in the garden a number of varieties of winter radishes, carrots, turnips, lettuce, onions and spinach. We miss the salsify, which failed in germination in the dry, hot weather in which it had to be sown, for here we have to sow salsify and parsnips at mid-summer to have good roots, since if sown early in spring they get woody and run to seed in our long season. But still we have enough in the garden to keep some fresh vegetables on the table all winter, and it is astonishing to note as we drive around that nearly every garden has been merely a summer garden and is now a weed nursery, and people wonder how to get rid of nut grass and other troublesome weeds when they let millions of seeds ripen in the garden, or rather, where the garden should be, all the late fall. Walking out from the city this morning a friend overtook me and asked how it was that I had gotten this old garden clear of nut grass, when a few years ago it was a solid mat of it. I replied, "Simply by not letting it live." There is no weed that can possibly live if not allowed to show a green leaf above ground all summer, and that is just what I have been trying to do for the nut grass, one of the most persistent of weeds, since it sprouts from underground tubers and makes seed, too. Chopped off in the afternoon and a warm rain following that night, it will be up and smiling the next morning just as if nothing had happened to it, and if not again chopped off at once it soon recovers lost growth and makes new tubers. Persistent cutting off the tops will finally get it under as I have gotten it, and no longer fear nut grass, which has been properly named Cyperus Hydra, for it has as many heads as the fabled hydra. Now, we do not have the plague of the North, the Canada thistle, but I am sure that the same course of treatment would eradicate the thistle, too, for no plant that makes green leaves above ground can long survive if not allowed to make them.

I have some hairy vetch in my big garden now about 8 inches high and with roots full of nodules, showing that it is busy at the nitrogen getting business even in this cool weather. If every vacant piece of ground on all farms, North and South, had this wonderful soil cover, what a change it would make in the crops next summer, even if the tops are cut off. I try to practice what I teach, and every spot in my nearly three acres of garden land that has no winter vegetable crop on it, is kept covered with clover or vetch to turn under in spring. For the Irish potato crop there is no fertilizer on bare land that can atone for the lack of some green crop turned under, for the fermentation and slight acidity the cover crop causes at that season, simply serves to keep the potatoes clear of the scab fungus that will not thrive under these conditions. While we have found that it is a dangerous practice here to plow under a green crop on the farm, to be followed by a sown crop, it is always an advantage to plow under a cover crop in the early spring when it is to be followed by a hoed crop, especially of potatoes. One piece of ground on which I failed to get a stand of crimson clover was last week sown to wheat. My horse will get that for hay and I will then grow my sweet potatoes on the same land with the help of some fertilizer with a small percentage of nitrogen and a good percentage of phosphoric acid and potash.

One of our grocerymen received a few days ago from the mountain section a Marblehead squash, and placed it in a window with a card attached, "What is it?" In a town of twenty thousand people, it was amusing to hear the guesses, for in this part of the country not one man in a thousand ever saw a winter squash, and people came to me daily asking me to tell them what that strange thing is. I tell them that it is something people use where they cannot have sweet potatoes.

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Points and Pickings.

Fall Plowing Beneficial? Surely. So is spring plowing. The more plowing the better it will be for the soil.

Early Tomatoes, as usual, have been profitable. They always are to the man who knows how to produce them. This year, all tomatoes have been profitable, even the latest.

The New Onion Culture.—Editor Collingwood (R. N. Y.) writes me that the "New Onion Culture" book "has started us on what promises to be one of the most profitable departments of the farm."

This Was a Bad Year for the robin. He has been "found out." It was a bad year for amateur fruit growers, too, who lost almost the whole of their small fruit crops through the robin's depredations. Even grapes did not escape in some cases. We will have to deal with birds according to their merits hereafter, not according to sentiment.

Unusually Good.—It is not often that you can get three such publications as The Practical Farmer, Green's Fruit Grower, both one year, and The Practical Farmer Almanac for 1904 all for $1.10. The Business Management say they will send them for that amount. Every person who runs a garden, large or small, ought to have the whole three, especially when the three together cost only a dime more than The Practical Farmer alone. Send for them, of course.

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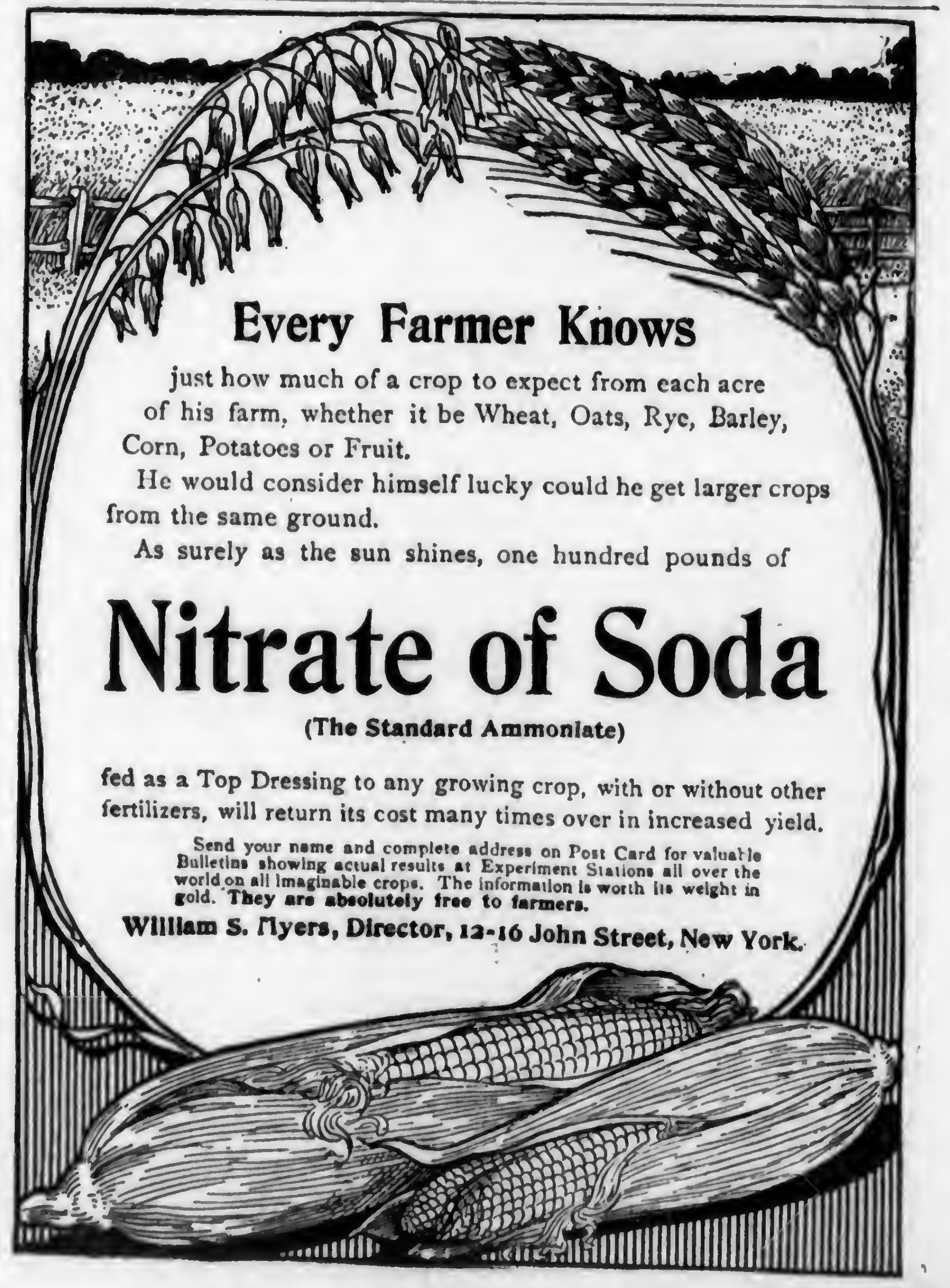

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William S. Myers, Director, 12-16 John Street, New York.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Covering Raspberry Canes.

There are two types of red raspberries in cultivation, those resulting from the European species and those which have sprung from our native one. The varieties of the latter are hardy almost everywhere in our country, but it is not the case with those of Europe, these need protection in winter. In fact, in many private gardens it is the custom to cover all red raspberries in early winter, the result being the preservation of the canes their entire length, which is not the case always when not covered.

The delicious flavor of the varieties of European origin makes it well worth while to go to the trouble of covering them. The flavor is much better than that of ours. Taking the Antwerp, Fastolf, Baumforth's Seedling, Saunders and like kinds, the flavor of the fruit surpasses that of our own varieties, of which the Cuthbert may be said to be the type. All the covering required is to lay the canes flat, close to the ground, keep them in position by a peg or some weight, and then cover them with about six inches of soil. It is asserted by gardeners who do this every year, that even the hardy sorts are the better for it, for they say that even these sturdy kinds when cultivated are apt to make growths which severe winters affect when they are unprotected.

Filberts.

There seems less attention given to the cultivation of the filbert than there should be. Filberts are but improved hazelnuts, and where one will grow the other will. That the climate suits them in the Middle States is settled by the fact that two species of hazel are found growing wild in the woods. In Pennsylvania the wild hazel is met with in many places, and in the southern counties, along the Maryland line, it is quite abundant in many situations. Whenever tried in gardens they succeed well. The bushes do not like to be crowded, and, in fact to bear nuts satisfactorily they need to be in an open place.

The catkins which are so prominently displayed in early spring are the male flowers. Below these are tiny pink flowers, close to the stem, and very apt to be unobserved. These are the females. The pollen from the catkins is to fertilize the female flowers. Sometimes owing to some peculiarity of the season the male flowers—the catkins—come to perfection too soon, before the small pink ones are ready, and fertilization is not effected. It is sometimes possible to get catkins from other bushes and brush them against the female flowers, assisting in the fruiting of the bushes.

It is better to set out hazel grown to a single stem rather than as bushes, otherwise the crowding of branches prevents bearing. The hazel seems more particular than many other shrubs in its demand for air and light for all its branches. When crowded there are nuts but on the ends of the shoots. The cultivation of filberts is quite an industry in many parts of Europe. There are dozens of sorts of improved varieties, which are propagated for sale, and kept under distinct names.

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Horticultural Notes.

Raspberries and Blackberries which make a late growth get winter-killed badly. All cultivation of the ground should cease early in the fall, that wood may ripen. And this is true also of all fruits and trees and shrubs of all kinds.

Christmas Decorations. — The long-leaved pitch pine of the South, Pinus Palustris, is now used a good deal in the North at Christmas time, the branches making good decorating material. Some florists are potting small plants for use at that time.

Seedling Pears producing spines are usually considered of no account, the spines indicating a reverting to the wild form. A notable exception is the pear called Frederick Clapp. It is quite spiney, yet the fruit is of excellent quality. In the Middle States it is an October pear.

Planting Trees. — When planting trees use sand or very fine soil for the first covering of the roots. It works about them better than any other kind. Be sure the roots have soil closely fitting them, as the success of transplanting depends on this. Tramp or ram the soil in hard until hole is nearly filled.

Makes it More Pleasant.—The presence of a few evergreens about one's grounds makes the place more pleasant, especially in the winter season. In late autumn, with the dropping of the leaves of deciduous trees, the evergreens become more prominent and are then much enjoyed. After late autumn comes, spring is the next best time to plant them in the colder States.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

The Males.—The males are half the flock. Be sure that you have good ones, and the required number. Sometimes we lose one or more of our best roosters, leaving us short. It is always advisable to hold one or more male birds (good ones) in reserve. The failure to do this has made the season's outcome (so far as the writer's increase of stock is concerned) anything but satisfactory. When most needed, namely in February and March last, Langshan males were not readily obtainable, and our chicks were late and few. We shall be better prepared another season. How many males to keep among a given number of hens is an often disputed question. A writer in one of our exchanges says on this point; "The proper number of males to keep depends upon the breed. With 100 Leghorn hens we keep six males, and seven males with same numnumber of Plymouth Rocks or any of the larger breeds. I know some poultrymen claim to have good success with a less number of males, and say there is no use of having so many males fighting and eating food. We have no trouble with them fighting when males are all secured about the same time in the fall of the year. Bring home strange males and put with others in the spring of the year if you want trouble with quarrelsome, fighting roosters. As to the feed the farmer has an abundance. Better feed the males and be sure of good hatches. We like to keep enough cockerels so that if one becomes disabled or dies there will be enough left without him." We have frequently had good success in hatching eggs, and raising strong Langshan chicks, where only one male was kept with about forty hens. It seems a proportionately large number of hens, but the one male seems to have fully answered the purpose. It would be safer, however, to make the number of hens to one male somewhat smaller, even with the Langshan breed.

◆

Queries Answered.

Feeding Green Bone.—A reader asks whether it would pay him to buy a "Mann" or other bone cutter, and whether such cutter turns easily, and ever remains in an easily turnable condition. It all depends on the chances for getting the green bones. If they can be had in sufficient quantities at a nominal price, I would by all means have a bone cutter, and one of pretty fair size. The larger ones seem to give better satisfaction, generally, than the smallest sizes. I don't believe that a much better nitrogenous food for laying hens that is readily available during winter, has yet been discovered than bones, especially ribs, with the fragments of meat adhering to them. The job of turning the cutter is easy enough when you have soft bones, ribs, small bones of any kind, etc., but not so easy when you undertake to grind (or rather, cut) the thigh bones and other large, hard bones of large animals. Knives will get dull after a while, and may have to be replaced. We always use the bone cutter when we have good bone material. Sometimes that is hard to get, and in that case we prefer to buy the meat meal offered by supply dealers, selecting that having the highest percentage of protein. This is comparatively cheap, and always effective. Like the green bone, of course, there is a limit to its use. It is possible to feed too much and in that way do harm.

◆

Pointed Poultry Paragraphs.

Whoever Says that chickens will rather drink from a brook or clean dish than from a stagnant pool or filthy mud hole, or that swine will not wallow in mud when they can have clean water, knows nothing of the nature of the animal.

Nothing Better for a hen house than a solid cement floor. It is dry. It keeps out rats. It is easily cleaned and kept clean. Who wants cold air circulating under the floor? Or a harboring place for rats right underneath the fowls' living and sleeping rooms? Keep the floor well littered with straw, or perhaps with dried muck.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

Forget You Ever Had It.

Catarrh, the Most Odious of All Diseases, Stamped Out, Root and Branch.

Catarrh is the most foul and offensive disease that afflicts the human race. Anyone with social ambitions had better renounce them if he has a bad case of catarrh, for his presence, if tolerated at all, will be endured under protest. The foul and sickening breath, the watery eyes, the hawking and spitting and fetid discharge at the nose make the unfortunate sufferer the most avoided of human beings.

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The following letter from a St. Louis lawyer is only one of thousands received praising the merits and curative powers of Stuart's Catarrh Tablets. Read what he says:

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Philadelphia, December 5, 1903

W. J. PALMER, a graduate of the Ontario Agricultural College has been appointed Director of Agriculture in the Orange River Colony at a salary of $6,000. It looks as though there are openings for young men in the study of agriculture.

◆

Hay as a Money Crop.

The great success of Mr. Clark of Connecticut, in growing huge crops of hay by a thorough preparation of the soil and heavy fertilization shows that even hay may be made a profitable sale crop. One hundred and eleven tons on less than an acre of land in 14 years would make a clever income where hay sells at $20 per ton or more, as it does in many parts of the Eastern and Southern States, and, in fact, for more than this in many parts of the South, where farmers have better land, more rain and a longer season than Mr. Clark. Eight tons of hay per acre beats many of the most profitable truck crops, and is a crop that does not have to be rushed off to market to prevent its spoiling. There are thousands of acres of soil naturally far better than Mr. Clark's, that would break his record in hay if treated in the same way. Farmers do not hesitate to scatter fertilizers on their crops of wheat, tobacco or cotton, but when it comes to putting 1,000 pounds of fertilizer per acre on grass it staggers them. But the time for intensive farming has come in the East, and the man who studies how to get the most out of an acre will be better off than the one who tries how many acres he can skim over.

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An Important Measure.

The Society of American Authors has prepared a bill to be introduced in Congress, amending Section 3878 of the Revised Statutes, so as to allow corrected proof sheets, authors' manuscripts, manuscripts of articles for publication in periodicals, manuscript sermons, music scores, original drawings and written tasks of pupils corrected without comment, to pass through the mails at third-class postage. The people of Canada can now send their manuscripts to this country at low rates, while we cannot, and this is but one of the inequalities in the postage laws, for the countries of Europe can send here articles of merchandise by parcels post while we would have to pay letter postage on the same if over four pounds weight. We want a parcels post, too, but while the express companies have their presidents in the U. S. Senate there is little hope for the people getting this privilege.

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The National Farmers' Congress.

We agree with several of our contemporaries that the National Farmers' Congress is making a mistake in considering questions of a purely political nature. At the Macon meeting the writer was Secretary to the Committee on Resolutions, and was successful in squelching every topic of the sort. If the Congress is to be really a gathering in the interests of farmers, and hopes to be of advantage to agriculture, it must avoid questions that concern men merely as citizens, and not especially as farmers. Otherwise it will drift into a partisan organization as one or the other of the political parties gain a majority in its councils, and then its usefulness as a farmers' organization is at an end. In the early history of the Congress we were impressed with the notion that it was an association of men seeking political influence and advancement. More recently it seemed to have gotten into better hands, and to be capable of doing good work for the farm, as was shown at Sioux Falls by its downing the efforts in behalf of the oleo fraud. But if the Congress continues to discuss such matters as ship subsidy, the admission of Oklahoma, election of Senators by the people and kindred matters, it will soon become a refuge for ax-grinding politicians, and farmers will do well to avoid it in company with the so-called National Live Stock Association of the Western packers.

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The Chemistry of the Soil as Related to Crop Production.

This is the title of an interesting bulletin issued by the Bureau of Soils of the United States Department of Agriculture. The gist of the bulletin lies in the statement that the soluble plant food in all soils is essentially the same, and that a chemical analysis is no criterion of the productiveness or poverty of the soil, and that the productiveness depends more on the freedom with which the soil yields water to the plant. It is shown that in a certain soil that has been called by the soil survey "Cecil Clay," from the county in Maryland where it was first noticed, is the same red clay that forms the soils of the Piedmont region of the South. In Cecil county, Maryland, this soil makes 25 to 30 bushels of wheat per acre, while under the present system of cultivation the same soil in North Carolina makes an average yield of about 8 bushels. But the bulletin admits that yield as large as the Cecil county yield has been made on lands properly cultivated in North Carolina. In fact, we know that a yield of 46½ bushels of wheat per acre has been made on the Cecil clay in North Carolina over an 80-acre field. The bulletin says that the effects of fertilizers are only in the early growth of the crop, and that they soon get into the general state of the soil, and the solution shows no increase of soluble plant food due to the application of fertilizers. It also says that "the presence of humus does not apparently increase the dissolved salt content of soils." In fact, the whole tendency of the bulletin seems to be to show that the chemical nature of the soil has nothing to do with the character of the fertilizers that should be used on it for the increase of crops, and we are thrown back on the manurial needs of the various crops as a means for determining what to use. It seems to us that the general fact overlooked, or, at least, not emphasized in the bulletin, is that the important matter in cultivation is the increase of the humus in the soil. The Cecil clay in Cecil county makes 25 to 30 bushels of wheat per acre because it has been farmed in a rotation that has increased the natural humus content of the land, which is, in the first place, greater than on similar soils in the South. In the northern county of Maryland the winter snow fall is generally quite heavy and the forest leaves are packed down to decay where they fall. In the Southern Piedmont the leaves in the open forests are blown from the hills in winter to the hollows, and when the land is cleared there is a smaller amount of humus present than in the more northern section, and this humus content has been still further reduced by bad cultivation. Since, as the bulletin says, the productivity of the soil largely depends on the abundance in which moisture is supplied to the roots, it is evident that a soil abounding in humus will exceed in this respect a soil of the same chemical character in which humus is deficient, for there is nothing that retains and supplies moisture to plants as humus does. Then, too, it modifies the texture of the soil, darkens it and renders it warmer, and we all know the importance of warmth in the soil, especially in the early start of plants in spring. The whole effect of this bulletin, it seems to us, is to show the great role that humus plays in crop production. The crop of wheat of 46½ bushels per acre, made on Cecil clay in North Carolina, was after a crop of red clover, which not only furnished plant food, but humus and moisture. But we know full well that fertilizers give a better effect on soil that abounds in humus, mainly because of the moisture present for its solution, and whether the solution of the soil shows any chemical increase or not, the plants find the added food and are helped by it. If, as we have said, the results shown in the bulletin are correct, we need to give attention rather to the way different crops select food than to the character of the soil in which they are grown, and the effectiveness of the fertilizers will depend largely on the humus content of the soil.

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Get the Best.

There is no one thing in which farmers, as a class, waste more money than in buying seed because the price is apparently low. This is particularly true of grass and clover seed. A low price, below the regular market price for recleaned clover seed, is always an indication of poor quality, and such seeds are always really more costly than those for which a fairly higher price is charged. The seed testing department of the Department of Agriculture in Washington, shows an instance where a bushel of clover seed weighing 60 pounds was bought for $3.50. Tested in the laboratory, it was shown that the 60 pounds contained but 27¾ pounds of good and germinable seed, and that the actual price paid for these good seeds was $7.57 per bushel, while good, recleaned seed of a high germinating test could have been bought for less money. There is still another reason why we should insist on getting thoroughly recleaned clover and grass seed. Even if the percentage of bad seed only consisted of seed that would not grow the case is bad enough. But, as a rule, the low priced, uncleaned seeds are mixed with a great percentage of foul weed seeds, and the farmer who sows them is getting his land infested with these. All over the land we see examples of this shortsighted policy in clover fields covered all over with wild carrot, ox eye daisy and narrow leaf plantain. A farmer in Virginia wrote, some time back, to the Editor that his land has gotten so infested with narrow leaf plantain that he can get no good results from the clover at all, and he was in a great worry as to how to get rid of it. He evidently had been buying the lowest priced clover seed he could get, without careful examination, and had, as a result, been sowing his land with plantain and paying well for all the clover seed he got. The true way to buy clover seed is always to send for a sample. Examine this with a good magnifying glass and see that there are no foul seeds in it. Then count out 100 seeds and place them on a piece of thick cloth; fold the other end of the cloth over them, and place the cloth in a little water in a saucer and put it on a warm mantlepiece. See that the cloth is kept just moist. After a reasonable time note the percentage of the seed that shows signs of sprouting, and you will get a fair notion of the germinating power of the seed. Then when you have found a good sample insist that the seed shall correspond with it, and then be prepared to pay a fair price for such seed. It will cost more than the run of the market, but will be far cheaper than low priced seed. Reliable seedsmen, who value their reputation, will sell you such seeds, but they will not sell you the low priced ones that are really the most costly. There is no greater extravagance than buying low priced seed of any sort. At this time, when preparing to buy seeds for next year, buy only the best.

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The Cream of the Bulletins.

New York Agricultural Experiment Station, Geneva, N. Y. Bulletin No. 234. Cold Cured Cheese. By F. H. Hall, L. L. Van Slyke, G. A. Smith and E. B. Hart.

Bulletin No. 184 of this Station gave the data of some tests in curing cheese at different temperatures in the curing rooms of the Station. The results of the tests were so conclusive that the Station has had no hesitancy in advising cheese makers in New York State to use some form of cold storage in the ripening of cheese. The cheeses in the tests were ripened at 50 degrees and lower temperatures were markedly superior in quality to those cured in warmer rooms. The tests were repeated by Major Alvord, Chief of the Dairy Division in the Department of Agriculture at Washington on a commercial scale, so that the benefits could be shown to the cheese makers in all parts of the country, and the New York Station accepted his invitation to co-operate with him in the tests. Cheeses were made at different factories in New York, Pennsylvania and Ohio, and stored and cared for by the Merchant's Refrigerating Co. of New York City. In October, 1902, 32,000 pounds of cheese were placed in storage at 40, 50 and 60 degrees. Two-thirds went into the 40 room, two-thirds of the remainder into the 50 room and the balance into the 60 room. Each lot was made at a single factory, under uniform conditions of manufacture, and cheeses from each lot were kept at each of the three temperatures. They were mainly large export cheeses, but two lots were medium size and part of one lot of small size, so that the influence of size could be determined. After about eight weeks the cheeses were weighed, scored and sampled for chemical tests when stored and when 20 weeks, 28 weeks and 35 weeks old. The cheeses cured at 60 had to be sold when 20 weeks old, as they showed signs of falling off in quality. Those kept at 50 degrees were sold at 28 weeks old, though still in good condition, some of them better than at 20 weeks. Those cured at 40 degrees were excellent at 35 weeks old several of them showing their highest score at this age. Almost without exception the cheese cured at the lower temperature was superior in quality to that cured at 50 and that cured at 50 higher than that at 60 degrees. The depreciation in quality was more marked between 50 and 60 degrees than between 40 and 50 degrees. In other words, it was shown that to secure good results in curing cheese the temperature of the curing room should be 50 degrees and below. The experts who valued the cheeses placed valuations on them ranging from eleven and three-quarters cents to fourteen and three-quarters cents. At the end of ten weeks the cheese cured at 40 degrees was worth twelve and a half cents per hundred more than that cured at 50 degrees, and 35 cents more than that cured at 60 degrees, and at the end of 20 weeks twenty-two and a half and sixty cents respectively. At the end of 28 weeks the cheese cured at 40 degrees was worth twenty cents a hundred more than that cured at 50 degrees. Added to the increase in quality it was found that the loss in weight was much less in the cheese stored at a low temperature. Stored at 60 degrees 100 pounds of cheese was worth $11.69; stored at 50 degrees, $12.42, and stored at 40 degrees, $12.77. Other things being equal the larger the cheese the smaller in proportion is the loss in weight. Much of the loss in weight is prevented by paraffining, especially at the higher temperature, and the quality was improved. This was done by simply dipping the cheese in melted paraffine, which checks evaporation. Thus the loss of moisture is less at a low temperature, and there is more cheese to sell. Its commercial quality is better and it brings a higher price, and it can be held at a low temperature for a long time. The greatest economy is by paraffining.

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CONTENTS

AGRICULTURAL. — Some Hints About Tile Draining.—Health Hints.—The Way to Cure Constipation. 353
A Grass Report.—Pea Hay in Middle Tennessee. 354
QUERIES.—Getting Clover.—Alsike and Red Clover. — Fall Plowing After Cotton.—Some Good Crops in Mississippi. 355
LIVE STOCK AND DAIRY.—Factors in Swine Breeding.—Hog Raising in the South.—Stock Query.—Running a Milk Farm. 356
VETERINARY. — Impaction. — Worms. —Leucorrhœa. — Throat Abscesses. —Suspicious Case. — Abortion.— Grease.—Indigestion. 357
GARDEN.—Talks on Timely Topics.— More About Hotbed Making.—Hotbed Soil. — Current Comments.— Field of Beans.—Fertilizers for Hothouse Lettuce.—Notes from a Carolina Garden.—Points and Pickings. 358
HORTICULTURAL. — Covering Raspberry Canes.—Filberts.— Horticultural Notes. 359
POULTRY.— Seasonable Suggestions.— The Males.—Queries Answered.— Feeding Green Bone.—Pointed Poultry Paragraphs. 359
EDITORIAL.—Hay as a Money Crop.— An Important Measure. — The National Farmers' Congress. — The Chemistry of the Soil as Related to Crop Production.—Getting the Best. 360
CREAM OF THE BULLETINS. 360
COMMERCIAL. 361
HOME CIRCLE.—Country Scenes.—Medical Hints.—Mrs. Allen's Decision. 362
A Few Christmas Gifts.—Our Book Table. 363
OUR EXPERIENCE POOL.—Topic No. 601.—Have You Tried an Ice House With Cold Storage Room? If so, Tell How You Built It. 364
SHORT CUTS BY P. F. SUBS.—General Purpose Paste.—For Filling Cracks in Floors.—For Frost-Bitten Feet.— Handy Potato Scratcher.—Heel Protectors.—Some Useful Suggestions. —How to Manage the Oven.—To Keep Apples Fresh.—Fire for Hen Mites. — Boy's Overalls. — Mending Steel Knife Handle.—To Keep Away Mice.—Remedy for Boils.—Corn and Cane Knife.—Carriage Top Dressing. —Repairing Cracked Cistern. 365
MISTAKES, FAILURES AND SUCCESSES.—Prefers Stock to Legal Tender.—Cleaning Soot from Carpets. — Saving. — Earning Money.— Parsnips.—Cotton Farming.—To Fill Cracks in Plaster.—Slicing Pineapple. — Succeeding with Small Means.—Flowers for Cemetery Use. —Saves The Practical Farmer Entire.—Remedy for Burns.—Scrap Book. 366
POSTAL CARD CORRESPONDENCE. 368

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PHILADELPHIA MARKET REVIEW.
November 28, 1903.

Wheat is quiet with little disposition to trade. Offerings were light and prices were well maintained. There was little demand for corn from either exporters or jobbers, but offerings were light and prices ruled steady. Oats were weak under liberal offerings. Supplies of live poultry were liberal and the market was barely steady, with only a moderate demand. In dressed poultry the demand for turkeys was weak and unsettled. After the Thanksgiving demand had been satisfied prices broke and there was a general pressure to sell. Supplies of other poultry were closely sold up and the market ruled firm. The recent advance in butter restricted the demand for fresh Western creamery, but supplies of fine goods were small and prices were steadily maintained. Refrigerator butter was in demand for local trade wants. Imitation creamery and ladle packed were quiet. Fancy prints ruled firm, with supplies closely sold up. Fine new laid eggs were scarce and sold promptly at an advance. Choice refrigerator stock was firm, with a good demand and moderate supply. Ordinary refrigerator stock was plentiful and dull. Demand for New York full cream cheese was light and the market was weak under liberal supplies. Receipts of hay were more liberal, but there was a fair demand for desirable stock.

WHEAT.—

No. 2, red, spot and Nov.	84¾	@	85
No. 2, Penna. and Del.	85¾	@	86
No. 3 red	79¾	@	80

CORN.—

No. 2, mixed	48¼	@	48¾
No. 2, yellow	53	@	53½
No. 3	46¼	@	46¾

OATS.—

No. 2, white natural	41	@	41½
No. 2, white clipped	42	@	42½

LIVE POULTRY.—

Fowls, hens, per lb.	12	@	13
Roosters, per lb.	9		
Spring chickens, per lb.	12	@	13
Ducks, per lb.	13	@	13½
Geese, per lb.	12		
Turkeys, per lb.	16	@	17

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	14		
Chickens, nearby, per lb.	15½	@	16
Western, d. p., fancy, lb.	14½	@	15
Spring turkeys, fancy, lb.	18	@	19
West. spring turkeys, per lb.	14	@	19
West. spring ducks, per lb.	14	@	17

BUTTER.—

West. creamery 1sts to extra	22½	@	24½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	23	@	26
Prints, Western	21	@	24½
Imitation creamery	17	@	20

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	34		
Western 1sts, free cases, L	33	@	34
So. West., 1sts, free cases, L	32	@	33
So. choice, free cases	30	@	31
Refrigerator, firsts	24	@	25

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—			
Choice and fancy	11½	@	11¾
Fair to good	10¾	@	11¼
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	13		
Domestic Swiss, No. 2	10	@	12

GREEN FRUITS.—

Oranges, Fla., bright, box	2.25	@	2.85
Oranges, Fla., russets, box	2.00	@	2.50
Grapes—			
N. Y. Concord, 4-lb. bas.	18		
N. Y. Catawba, 4-lb. bas.	13	@	16
N. Y. Niagara, 4-lb. bas.	20	@	25
Cranberries—			
Cape Cod, large late, bbl.	7.00	@	8.50
Cape Cod, early Bl., bbl.	6.50	@	7.00
Cape Cod, early Bl., crate	2.25	@	2.75
Jersey, per crate	1.75	@	2.00

APPLES AND PEARS.—

Apples—			
N. Y. Snow, per bbl.	3.00	@	3.50
Kings, per bbl.	3.00	@	4.00
Pippins, per bbl.	1.75	@	2.50
Greenings, per bbl.	2.00	@	2.50
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl.	2.25	@	2.75
Pears, Kiefer, per bbl.	1.50	@	2.50

POTATOES.—

White, Pa., choice, per bu.	68	@	70
White, N. Y., choice, per bu.	65	@	68
Fair to good	58	@	63
Sweets, Jersey, prime bas.	30	@	50
do Jersey, 2ds, per basket	10	@	15

VEGETABLES.—

Onions, Western, per bu.	63	@	65
Cabbage, per ton	15.00	@	16.00
Cauliflower, L. I., per bbl.	3.00	@	3.25
Cucumbers, Fla., per bu.	2.00	@	3.00
Eggplants, Fla., ½-bbl. crate	2.00	@	2.50
String beans, 1-3-bbl. bas.	2.00	@	3.00
Tomatoes, Fla., per case	2.50	@	3.50
Lettuce, N. C., ½-bbl. bas.	1.50	@	2.50

BEANS AND PEAS.—

Beans, mar., H. P., 1903, bu.	2.70	@	2.85
do mediums, H. P., 1903	2.20		
Pea beans, H. P., 1903, bu.	1.95	@	2.00
Imported pea beans, per bu.	1.85	@	1.90

COTTON.—

Cotton, per 100 lbs.	11.30		

FEED.—

Bran, bulk, winter, per ton	19.00	@	19.50
Bran, sacked, spring	19.00	@	19.50

HAY AND STRAW.—

Timothy, No. 1, large	16.00	@	16.50
Timothy, No. 1, small	15.50	@	16.00
Timothy, mixed	12.50	@	14.00
Clover, No. 1	10.00	@	12.50
Wheat	10.00	@	11.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Best steers	4¾	@	5¼
Good steers	4¼	@	4½
Medium steers	3¾	@	4
Common steers	3	@	3½

Veal calves firm and active.

Extra calves	8	@	8¾
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

Hogs lower.

Fat hogs, Pa., Del. & Md.	5	@	6¼
Fat hogs, Western	6¾	@	7¼

Sheep and lambs about steady.

Sheep, extra	4¼	@	4½
Sheep, good	3½	@	4
Sheep, medium	3	@	3¼
Sheep, common	2	@	2½
Lambs	4	@	6

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New York, Nov. 28, 1903.

WHEAT.—

No. 2, red	87¾	@	88½
Northern Duluth	90¾		

CORN.—

No. 2, yellow	52		
No. 2, white	50¾		
No. 2, mixed	49⅝		

OATS.—

No. 2	42½		
Standard white	42½		
No. 2, mixed	42		

HAY AND STRAW.—

Timothy, new, per cwt.	90		
Timothy, No. 1	85	@	87½
Clover	60	@	62½
Straw, long rye, per cwt.	95	@	1.05

HOPS.—

New York State, 1903, lb.	24	@	32
Pacific Coast, 1903, per lb.	21	@	29
German, 1903, per lb.	55	@	65

BUTTER.—

Extra creamery	24½		
West. extra factory	15		
State dairy	15	@	20
Packing stock	12½	@	14
Imitation	15	@	18

CHEESE.—

State, f. c., small, fancy	12		
Good to prime	10¼	@	11½
Large colored, fancy	12		
Light skims	7½	@	9
Full skims	1½	@	2

EGGS.—

QUOTATIONS AT MARK.

Nearby fc'y, selected white	40	@	45
State & Pa., fancy	33		
State & Pa., seconds	29	@	32
Western extras	33		
Refrigerator	22	@	26

LIVE POULTRY.—

Chickens, per lb.	12½		
Fowls, per lb.	11½	@	12½
Roosters, per lb.	8½		
Turkeys, per lb.	14		
Ducks, West., per pair	80	@	90
Geese, West., per pair	1.50	@	1.62

DRESSED POULTRY.—

Turkeys, fancy, d. p., lb.	20	@	22
Scalded, per lb.	18	@	20½
Old, mixed, per lb.	17	@	18
Broilers—			
Phila., fancy, large, lb.	21	@	23
Western, d. p., per lb.	16		
Fowls—			
Ohio & Mich., scalded, lb.	12	@	12½
West. d. p., av. best, lb.	12	@	12½
Chickens, Phila. fancy, lb.	17	@	18
State and Pa., fancy, lb.	14	@	15
State and Pa., poor, lb.	10	@	11
Spring ducks, nearby, lb.	17	@	18
Western, per lb.	14	@	17
Inferior, per lb.	10	@	12
Spring geese, Eastern, lb.	17	@	18
Squabs, per doz.	1.75	@	2.62

APPLES AND PEARS.—

Apples—			
Ben Davis, per bbl.	2.00	@	2.75
Spitzenberg, per bbl.	2.50	@	4.50
King, per bbl.	2.50	@	4.00
Greening, per bbl.	1.50	@	2.50
Tallman Sweet, per bbl.	1.50	@	2.00
York Imperial, per bbl.	2.00	@	3.00
Hubbardston, per bbl.	1.75	@	2.50
Pears—			
Lawrence, per bbl.	2.50	@	3.50
Kiefer, per bbl.	1.50	@	3.00
Vicar, per bbl.	1.50	@	3.00
Seckel, per bbl.	4.00	@	8.00

GREEN FRUIT.—

Grapes—			
N. Y., Niagara, 4-lb. bas.	12	@	20
N. Y. Concord, 4-lb. bas.	12	@	16
N. Y. Catawba, 4-lb bas.	14	@	17
Wine grapes, black, ton	50.00	@	55.00
Cranberries—			
Cape Cod, bbl.	6.50	@	8.50
Cape Cod, crate	2.00	@	2.35
New Jersey, per bbl.	6.00	@	6.50
New Jersey, per crate	1.80	@	2.00

POTATOES.—

L. I., per bbl.	2.00	@	2.37
Jersey, per bbl.	1.75	@	2.25
Maine, per sack	1.75	@	1.95
So. 2nd crop, per bbl.	1.50	@	2.00
Sweet potatoes, Jer., per bbl.	1.50	@	3.00
Southern, per bbl.	50	@	1.00

VEGETABLES.—

Carrots, per bbl.	75	@	1.25
Cabbage, domestic, per ton	10.00	@	14.00
Tomatoes, Fla., per carrier	1.50	@	3.00
Tomatoes, Cal., flat cases	1.50	@	2.00
String beans, Char., per bas.	1.00	@	2.50
Squash, Hubbard, per bbl.	1.00	@	1.25
Squash, Fla., white, per bas.	1.00	@	1.75
Cucumbers, Fla., per bas.	1.00	@	3.00
Cauliflower, per bbl.	1.00	@	4.50
Celery, per doz.	10	@	40
Eggplants, per box	2.00	@	4.00
Lettuce, nearby, per bbl.	1.00	@	1.25
Lettuce, New Orleans, bbl.	4.00	@	6.00
Onions, white, per bbl.	2.00	@	5.00
Red, per 150 lbs.	1.50	@	1.87
Yellow, per bbl.	1.25	@	2.00
Peas, Florida, per basket	3.00	@	5.00
Peppers, Fla., per carrier	1.50	@	3.00

BEANS AND PEAS.—

Beans—			
Marrow, 1903, choice, bu.	2.95		
Medium, 1903, choice, bu.	2.17		
Pea, 1903, choice, per bu.	2.10	@	2.12
Lima, California	2.25		
Green Peas—			
Scotch, 1903, bags, per bu.	1.25	@	1.27

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Country Scenes.

CLARA E. MICHAEL.

What life more happy than the farmer's life
'Mid all the country's beauties?
What daily tasks are pleasanter
Than a farmer's out-door duties?

You may talk about your cities,
With all their noise and bustle,
About your crowded thoroughfares,
Where the people run and hustle.

For me the rolling country fields,
With emerald verdure glowing,
Where happy birds are caroling
And balmy breezes blowing.

Where crystal streams of water pure
Go rippling through the meadows,
As gliding o'er the stones they go
Amid the flick'ring shadows.

Let's take the seasons as they come—
Fair spring with all her sowing—
Her plowing and her harrowing,
Her weeding and her hoeing.

Next, summer's scarlet strawberries
Amid the green leaves glowing.
The farmers in their spacious barns
The fragrant hay are stowing.

When roses bloom along the way,
And cherry trees are laden
With fruit of scarlet, pink and black,
For which we long were waiting.

Fair autumn's coming on apace,
Oh blessed, blessed season!
For all thy wealth of golden grain
To thank God I've good reason.

The orchard trees with ruddy fruit
Are fairly overflowing,
While 'mid the drying corn shocks see
The golden pumpkin glowing.

The apple butter kettle now
Right merrily is swinging,
Ready for the rosy fruit which
The busy girls are bringing.

Soon bright-hued autumn leaves are hid
'Neath blanket—white and fleecy—
Old Father Winter's come to reign,
With north wind, loud and breezy.

At every corner in the town
Are merry children waiting
To catch a ride; while many more
Upon the ice are skating.

Bring out your bob sleds, farmers all!
And take the young folks riding
While the sleigh bells pealing merrily
Ring out the Christmas tidings.

Fairview, Pa.

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Prize Article.

Medical Hints.

H. L. REYNOLDS.

In the issue of Oct. 10th we have a description of a very bad case of calomel poisoning, and it is only one of the many that occur almost every day, but fail to come to public notice. My wife was given calomel some thirty years ago, when a girl, and was salivated to the extent that her teeth became loosened so she could pull them with her fingers, and did so at intervals until a year ago, when only two were left and the dentist removed them and furnished a new outfit that is doing good service. We do not use calomel in any form now, and never expect to. We use the root of the May apple instead, and find it answers every purpose. When we cannot get it from the woods we buy it from a druggist ready prepared.

After many years of nursing the sick and a close study of anatomy and physiology, and to some extent medicine, I emphatically say never use mercury (from which calomel, blue mass, etc., are manufactured) in any form unless under the special care of a physician or a trained nurse; then be sure to eat nothing containing acids until the medicine is worked out of the system with salts or oil, which should be within 12 or 15 hours. As to morphine, it has no business in the stomach.

Now as to appendicitis; this is no fad, but a disease connected with the lower bowels, or colon appendix, and is a serious condition that has been a puzzling question for the doctors of late years. Surgical operations are being resorted to, some of our friends being in the list operated on. I have given it much study and some experiments, and can recommend Dr. Wolford Hall's treatment to be almost a sure cure and a certain preventive. It is simply injections daily (on retiring at night is best) of a quart of warm water (not hot) for an adult. My experience is that a teaspoonful of common salt in the water adds much to the efficiency, as salt is very cleansing and will remove the soreness that is generally present. The quantity can be doubled without injury or unpleas- be doubled without injury. After retaining the water a short time (15 or 20 minutes) it can be expelled and the bowels filled again, and the patient may retain a quart or more by lying down and being quiet, perhaps sleeping till morning, and the water may be absorbed by the system, which will only result in benefit. This is only a general description of the local treatment, which will almost always give speedy relief, but should be kept up for two or three days. If the system is run down (which is not always the case) take an alterative to act on the liver, then follow this with tonics for a few days to give tone and strength to the system. If you do not choose to use medicine then eat freely of fruit or tomatoes (better if seeds and peeling are left out). It is a matter mainly of cleanliness inside as well as outside of the human body, if health is to be maintained. Disease is not going to enter a healthy body, but if filth is permitted to accumulate in any remote corner of the human anatomy, then disease is sure to find it, and constipation, which is generally produced by sedentary habits and the lack of fruit or other laxatives in the daily fare, is the main source of the deadly appendicitis. Any further description as to the anatomy and physiology of the points in this disease would prove too long for this article, and perhaps dry reading, but I do wish that everyone would become so interested in this body of ours that they would not stop short of a full understanding of its every detail and requirements, and not depend so much on the medical fraternity for health, which they often fail to give. One of our local M. Ds., who is also a splendid surgeon, recommends operation in almost every case, and is generally successful. Another doctor recommends castor oil and turpentine as his special remedy, but I like the above simple treatment best, and if I can be instrumental in relieving a single case of this dreaded malady I will feel repaid for this article.

I see in Oct. 17 issue that a lady wants Dr. Haynes' headache cure (plantain). I have all the articles written by Dr. Haynes in The Practical Farmer; in fact, have all the papers filed away for the last ten years, but not convenient now to reach them. I will say, however, that nine times out of ten headache, especially sick headache, comes from a foul stomach or indigestion, and a cup of boiling water sipped from a teaspoon, as hot as can be taken, will almost always relieve it in ten minutes. It is better to add a quarter or half teaspoonful of common salt. This is very simple, but good; try it and be convinced.

In regard to the rabies, I would apply common baking soda to the bite as soon as possible and keep changing to fresh every few minutes. This is our remedy for the bite of the rattlesnake and copperhead here in East Tennessee, where we have plenty of snakes. Dr. Haynes will perhaps renew his prescription; if not, we will send it.

Tennessee.

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Mrs. Allen's Decision.

MARIAN OZMUN BROWN.

"There's just one thing about it," announced Mrs. Allen, with smiling decision, one day in early spring. "I've waited and waited, and planned and planned, time after time, to fix up my room, so it will look more like a modern sleeping room, and also be more comfortable, and now I am going to do it; and what I can't get for it that I want, why I will let go. But I am going to do just all I can with it, and not wait any longer. So there!" and she picked up the baby out of his crib.

"Well," replied her mother, "if you have made up your mind, I suppose that is the end of the matter. What do you say, John?"

But John only smiled his acquiescence, while baby, when interviewed by his father as to what he thought of "mamma's plan," only patted his soft little hands together and crowed "mam-mam-mam!"

So the next week, after much careful studying and planning, the work was begun. The year before, the room, which was of good size, had been freshly painted and papered; ivory-white paint and paper in cream white and yellow, a modest floral design. The floor also had been newly covered with light brown and cream matting, while at the windows had been hung yellowish shades with knotted fringe and dotted Swiss sash curtains on brass rods. This greatly simplified matters, and made it much easier than it would otherwise have been. The bed, which was large and fitted with springs, only needed a coat of varnish to make it look like new. It was of light natural wood, yellowish in color, and so harmonized with the room. A spread and long scarf—in place of separate shams—of white dotted Swiss over pale yellow silkoline, brought the bed up to the needed requirements. The bureau, which was low, and the long mirror—nearly as wide as the length of the bureau—resting upon it, were each given a coat of varnish. Then the old-fashioned knobs were removed from the bureau and replaced with pretty brass pulls. A cover for the top was made of the dotted Swiss over pale yellow silkoline, the same as the spread and pillow scarf. A square pincushion was also covered with the yellow and a loose cover of the Swiss laid upon it. On the bureau Mrs. Allen put her white hand-glass, and a brush and comb to match were laid on a pretty decorated china tray. A small china receptacle for trifles, one for matches, a slender stemmed flower glass on a Battenberg doily, and a small framed photograph or two, completed the furnishings of the bureau.

An old-fashioned washstand, after being treated with white enamel, was hung with a full curtain—of the Swiss over yellow—from the lower edge of the two small drawers (with brass pulls like the bureau) to the shelf below, thus closing the open space above the shelf; the curtain opening in the middle to allow for the shelf being used. On top was laid a cover to match that on the bureau, of white with gilt decorations, admirably fitted its new position, while at the left was fastened a small white enamel towel rack.

A couple of old-fashioned unused chairs, and a small, low rocker, were also treated with white enamel. The two chairs having the seats padded and tightly covered with figured light tan denim, and the rocker, fitted and a splasher of the same was fastened against the wall at the back. The toilet set with ruffled cushions of yellow and white silkoline. An old trunk, padded and covered with the denim, with a box-plaited flounce around the front and ends, made an admirable place to pack things away; and when placed under a window, with a couple of ruffled pillows on top, made a fashionable window seat. The room had no closet, a serious objection. Mrs. Allen's sister had made one for herself, of unbleached muslin tightly stretched and fastened from floor to ceiling, papered on both sides, and a portiere over the door; but she felt she could not accomplish such an undertaking as that, so she bought very cheaply, at a sale in the nearby city, a white enamel three-fold screen. She then filled the panels with shirred silkoline in yellow and white. Then came John's part. On the back of each panel she had him fasten a narrow strip of wood, as long as the width of the panel; this was enameled white. On these strips she fastened clothes hooks, and when stood across one corner of the room, one saw only a very pretty screen, while behind was a handy place to hang things.

Up in the attic were three old, flat wood picture frames, of different sizes. These she sandpapered, enameled white, and fitted with glass, cut the right size at the drug store.

In the city she bought two large sheets of picture mat, used in mounting pictures, for ten cents each; one white, the other brown. A Madonna, cut from the cover of a periodical and mounted on white, she placed in one of the frames. A picture of Baby Stuart—a gift—in another; while in the third she put a small etching, which came as a premium for soap wrappers. These she hung on the narrow white picture moulding, with which the room was fitted. On a piece of the brown mat she mounted a yard of pansies in natural colors, which she had obtained some time before from an art magazine, which was sold for twelve cents. Here and there, wherever they fitted in best, she put a small passepartout picture (bought in the city for five cents); a picture of a baby kneeling on his mother's lap to say his evening prayer, and two or three others mounted on some of the picture mat, while low down at the head of the baby's crib, she hung one with pictures of real babies, cut from baby food booklets, scattered irregularly on the mat.

She wanted a white fur rug to lay before the large bed and on which to stand the crib, but could not afford it, so made a simple one from two yards of Japanese matting, the warp tied at each end and very coarse twine bought at the hardware store, knotted in for fringe. A couple of smaller ones in golden brown, tan, cream and a little yellow, woven of rags, hit-and-miss with solid border, and fringe on each end, were laid in front of the bureau and washstand.

"Well," she announced one day, "the room may not be quite finished, but I am sure I am, and so I am going to stop operations and call it done. How do you think it looks, mother?"

And mother, with one hand on the open door, replied, "It looks lovely, dear; better than I thought it could, doesn't it, John?"

"Yes," answered John, "it's a dandy. But it don't look any better than I thought it would, for when a woman that can do anything she undertakes, even to making a new spring bonnet out of a pair of old boots—"

"John!" eclaimed Mrs. Allen.

"Maybe—you didn't let me finish. I said maybe," laughed John teasingly, "when such a woman goes at anything, why it has just got to 'git,' that's all. Don't you say so, baby?" And baby, kicking appreciatingly, waved his dimpled hands at the pretty, white-dressed baby in the mirror and crowed "mam-mam-mam."

Ithaca, N. Y.

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A Few Christmas Gifts.

POLLY BARBER.

Christmas will soon be here and now is none too soon to begin making our presents. Bunches of life everlasting, or live-forever, are very pretty dyed a rich red, and leave some white to mix in the evergreens for decorative purposes. They also make very nice filling for sofa pillows. Remember someone with a little gift who cannot repay you next year. A razor case would make a nice present for someone. Take a piece of chamois and cut the width and length required, allowing an inch extra in the length for the fringe. Sew up on the machine with silk (any desired color) twist, and stitch across the bottom, leaving the space below for the fringe, which is made by slashing the chamois in about one-eighth inch widths. A full bag top of silk to match the thread, drawn together with silken cords, completes the top. Embroider or paint on the chamois the words, "With edge as sharp as wit," and the useful gift is finished. I once made a sachet thus: Two-thirds of a yard of pink satin ribbon three inches wide. Cut in the middle and fringe the ends (four). Then take a piece of cotton batting not quite as wide or long as the ribbon is and strew thickly with sachet powder. On one piece of ribbon embroider the recipient's initials, *i. e.*, in the centre of the silk. Now place the batting between the ribbon and cat or feather stitch all around the edge and finish with a bow of ribbon (narrow) in each corner.

A PEN WIPER.—The Chinaman suggests a novel use for the wishbone of a chicken, which, with the help of an old glove, some sealing wax and linen thread (black) comprise the needful materials. The head of pink sealing wax has the nose and ears pinched into shape, while indentations are made for the eyes and mouth. All this is done while the wax is warm. For his "pig tail" braid some linen thread, and to stick it into the head reheat that part with a match. The trousers are fingers of an old glove, and the dumpy feet are made of black sealing wax. The coat part is the wrist of the glove, and the sleeves are joined into the armholes. The pen is wiped on the inner edges of the coat, which may have strips of flannel for this purpose.

A pretty whisk broom holder is made by cutting two pieces of heavy cardboard the shape of a bell (handle down, of course), cover one with linen, silk or denim, and embroider or paint on it a sprig of holly. The other piece of cardboard cover with green cloth and join the two together with a rosette of red ribbon on each side. Add a bow and loop to hang up by.

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Our Book Table.

VELMA CALDWELL MELVILLE.

For the mother whose boy is "just crazy about animals, birds and such things," we have a book seemingly made on purpose. It is entitled "Two Little Savages," and written by Ernest Thompson Seton, but the details of the work were designed by Mrs. Seton, and unique they are. It is large and handsomely bound, with the fashionably ragged edged leaves which remind one of the man said to have returned such a finished book to the dealer with the request that as he had paid for a new book, he wanted a new book. This had not half the leaves cut and those that were were ragged and uneven. "Two Little Savages" is the result of not only its author's thought, but the expressed desires of thousands of boys, who, having read his series of articles and noting his request that each tell what he would like him to put in the story, wrote him at once. To try to make our readers acquainted with the book without their seeing and perusing it for themselves, would be an utter impossibility, but we will mention a few of the things suggested by the index. (A book with an index carries conviction at once that it has something to say worth reading.)

Arrows—how to make, etc. Illustration of arrow—wood. Illustration of three kinds of ash, balsam, basswood, beech, etc. Bow—how to make. Dyeing—telling how to dye with butternut, hemlock and ten other woods. Fire—how to light without matches—right woods to use; fire signals as used by Indians. Interesting account of fight between cat and skunk. How to skin a dead horse. How to make needles of catfish bones. Trails—paper, corn, signs. Trees—points of compass indicated. Taxidermy. Besides, almost every flower and bird known to the ordinary woods is described, as well as many animals. Our hero for the most part, with one companion or another, lives in the woods, playing at Indian or naturalist life in a way so practical that it can hardly be called play or even camping; it is more like roughing it. Of "The Two Little Savages," someone has said: "A fascinating story into which Mr. Seton has put all the knowledge of woodcraft and of wild animals which he has accumulated in a lifetime of study and experience. It tells boys how to camp out, how to form an Indian band, how to make a dam, etc. It will surely be a boys' classic." There are in all 300 illustrations. The simple preface reads, and reveals the secret of the story:

"Because I have known the torment of thirst I would dig a well where others may drink." The tale teaches love for and kindness toward every living creature; it fosters a love of nature and opens up new and beautiful ideas. It amuses and at the same time instructs. We need something of the kind in this age gone mad over athletics. Our youth have no time to cultivate mind or heart—all heels. We would recommend parents to put this book in the boys' library even if it does seem to cost a "pretty penny"—$1.75—to buy a good book is always an economy.

Chopping Rocks

with a razor is about as foolish as using ordinary soap for shaving—such soaps not only fail to soften the beard, but they smart, irritate and poison the face.

WILLIAMS' SHAVING SOAP

is made expressly to soften the beard—to soothe and cool the face and make shaving easy. It has been doing this for fifty years. No other soap will do it so well. **"The only Soap fit for the face."**

Sold Throughout the World.

FREE

A Trial Tablet if you mention this paper and send a 2c stamp to pay postage.
Address
THE J. B. WILLIAMS CO.,
Glastonbury, Conn.

An Enthusiastic Admirer of the
"1900" BALL-BEARING FAMILY WASHER.

Chicago,
Nineteen Hundred Washer Co.,
Binghampton, N. Y.

Last week I started to wash with your "1900 Ball-Bearing Washer." A neighbor saw me wash my little boy's waists (which were terribly dirty) and in ten minutes I wrung them out, and we were very much surprised to see that there was not a spot left. On Monday we did a big wash of fifteen machinefuls of clothes in four hours. The lady living upstairs saw that we turned out so much work in such a short time, that she asked us to loan her the washer for Tuesday, which we did. **She has a washer, which she could never use, as it took a man to turn the machine.** The "1900" is by far the best machine I ever saw. It works so easily that my little boy can run it. You are at liberty to refer anybody to me for further proof.

MRS. A. H. CENTNER,
66 Diversey Boulevard.

THE "1900" BALL BEARING FAMILY WASHER SENT FREE

to any one answering this advertisement, without deposit or advance payment of any kind, freight paid, on 30 days trial. The 1900 Ball-Bearing Washer is unquestionably the greatest labor-saving machine ever invented for family use. **Entirely new principle.** It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery. It revolves on **Bicycle Ball Bearings,** making it by far the easiest running washer on the market. No strength required, a child can operate it. No more stooping, rubbing, boiling of clothes. Hot Water and soap all that is needed. It will wash **large quantities of clothes** (no matter how soiled) **perfectly clean in 6 minutes.** Impossible to injure the most delicate fabrics. **Write at once for catalogue and full particulars to the**

"1900" WASHER CO.,
23 E. State St., Binghamton, N. Y.
References: First National Bank, Binghamton, N. Y.

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You can't lose an atom without feeling it. The body is like an engine, a watch, a machine; must be kept in good order to run right.

That's the reason Scott's Emulsion is so successful in all wasting diseases. It feeds, nourishes and strengthens when ordinary food won't.

Doctors say Scott's Emulsion is the best nourishment for those who are not as well as they should be—young or old.

We'll send you a sample free upon request.
SCOTT & BOWNE, 409 Pearl Street, New York.

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The best holiday gifts are useful gifts, and one of the most useful is the New and Enlarged Edition of
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of English, Biography, Geography, Fiction, Etc.
Useful. Reliable. Attractive. Lasting
The New Edition contains 25,000 New Words
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FREE—"A Test in Pronunciation,"
Instructive and entertaining for the whole family.
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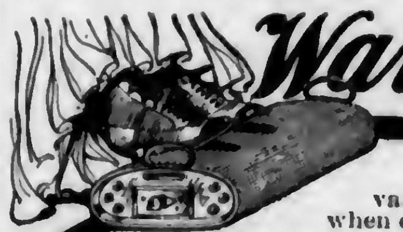
The Old Fashioned Paint that never chalked, cracked or peeled was made from pure White Lead mixed with pure Linseed Oil. NATIONAL LEAD CO., 100 William St., New York.



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You can thereby avoid winter discomforts and make your driving a pleasure when out in the cold, by heating your carriage, wagon or sleigh with a celebrated LEHMAN HEATER, which burns LEHMAN COAL, from which there is no smell, smoke nor danger of fire. They can be operated at a cost of 2 cents per day.

Farmers, physicians and horsemen, everywhere use and recommend them. 200,000 heaters are in actual use, which alone speaks as to their merit. Sold by all first-class carriage, harness and hardware dealers everywhere.

Write for circular and price list.

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Beware of imitations.

Hey! Santa, where's that STEVENS

Don't disappoint the boy at Christmas-time—buy him a rifle or shotgun and teach him how to use it properly. Tempt him to a fresh-air life. Let him feel the wholesome influence of the finest sport in the world. Train his eye and steady his hand before a target or make his blood run faster in the hunt for game.

SEND FOR OUR FREE BOOK OF 128 PAGES
It tells about the "Stevens," gives pictures and prices. Contains articles on Hunting, Fishing, Canoeing, Target Shooting, etc.

Send 4c. in stamps for a teasing RIFLE PUZZLE. It is lots of fun—"easy when you know how," but everyone can't solve it. Can you? Address Puzzle Dept.

We make Rifles, Shotguns, Pistols, from $2.50 to $150.00.
Most good dealers will sell you a "Stevens"—some will try to talk you into taking a poor kind because they can make more money on them. Look out! A gun is the safest thing in the world if *well made*, but a poor gun is a good thing to leave alone.

We make a specialty of these Rifles:
"Stevens-Maynard, Jr." $3.00
"Crack Shot" $4.00
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We will sell to you direct (and pay the express charges) if your dealer won't supply the "Stevens"

J. STEVENS ARMS AND TOOL CO., 89 Main St., Chicopee Falls, Mass.

Free Holiday Games
60 different games—one in each package of
Lion Coffee

All Kalamazoo ranges and cook stoves are equipped with patent oven thermometer. Makes baking sure and easy.

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A better stove or range than you can get from any other source. A saving of from 25% to 40% in price. Prompt shipment from factory to user. Factory prices—no dealers' profits. Freight prepaid by us. 360 days approval test. Guarantee backed by $20,000 bank bond.

KALAMAZOO Stoves and Ranges are manufactured by us in our own factory. We know they are all right "clear through." Don't confuse them with cheap mail order goods. We are the only stove manufacturers in the world selling their entire product direct from their own factory to the user.

There isn't a better stove or range at any price and by eliminating all dealers' and middlemen's profits we save you easily 25% to 40%. Moreover we give you a 360 Days Approval Test. If your purchase is not satisfactory in every way, return the goods at our expense. We have a complete line of ranges, cook stoves and heaters for fuel of all kinds. All stoves blacked, polished and ready for business.

It will pay you to investigate.

Send for catalog No. 194 and prices, freight prepaid.
THE KALAMAZOO STOVE CO.,
Manufacturers,
Kalamazoo, Michigan.

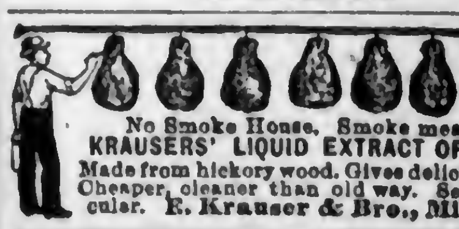
Our "Index" describes *all* lamps and their *proper* chimneys. With it you can always order the right size and shape of chimney for any lamp. FREE. MACBETH, Pittsburg, Pa.

ENTERPRISE FOOD CHOPPER Makes better food possible. Catalogue free. ENTERPRISE MFG. CO. OF PA., Philadelphia, Pa.

WANTED. 10 men in each state to travel, tack signs, and distribute circulars and samples of our goods. Salary, $60.00 per month; $3.00 per day for expenses. Kuhlman Co., Dept. B, Atlas Blk, Chicago.

GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers. KIRTLAND BROS. & CO., Dept. 6D, 90 Chambers St., New York.

Insist on getting The Buckskin Brand made of real rubber. MONARCH RUBBER COMPANY, St. Louis, Mo.



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You discard when soiled. Your linen always has the bright new appearance, never yellowish or worn when you use "Linene."

It takes a close inspection to detect the difference between the fabric they're made of and real linen. Double wear in lay down collars. Ten collars or five pair of cuffs by mail for 30 cents. If you don't find them at the store. Send us 6 cents in U. S. stamps for sample collar or pair of cuffs.

Be sure you name Size and Style.

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"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 603, Dec. 19.—*Give Your Experience in the Raising of Geese and Pekin Ducks.*

Topic No. 604, Dec. 26.—*Has The Practical Farmer Made any Dollars for You in 1903?*

Topic No. 605, Jan. 2. — *How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 606, Jan. 9.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 607, Jan. 16.—*Have You Found it More Profitable to Spread Straw and Clover Chaff on the Wheat Fields or to Use it all in the Manure?*

Topic No. 608, Jan. 23.—*Have You Found Currants and Gooseberries Profitable Garden Crops? If so, Give Your Experience in Their Cultivation and in the best Varieties for Market.*

Topic No. 609, Jan. 30. — *Which Breed of Cows is Best for the Farmer who Simply Keeps Them to Supply His Family and Have a Little Butter and Milk to Sell at Times?*

Topic No. 610, Feb. 6.—*Give Your Experience with the Celery Crop, Varieties, Storing and handling for Market.*

Topic No. 601.—Have You Tried an Ice House With Cold Storage Room? If so, Tell How You Built it.

W. F. Grabs, King, N. C.—About five years ag (after getting written instructions from Prof. Massey) I made an ice box over a small cellar. I used thick plank for the ice floor. The slant of the cellar floor was made to correspond with the slant of the roof above. The house was made about as any other cheap framed building, except the walls are about 8 inches thick and are filled with shavings and well dried sawdust. I fixed a sort of weather boarding on the low side of the cellar for the ice water to run down, so as to keep it from striking the dirt wall of the cellar. The project was a success, but I only used it one year—as I will notice again. I kept ice and apples very well on up to the tenth of June. On the tenth of June I took the last of the apples out of that cellar, and I gave the ice away the same day. The ice pond was some distance away, and I did not expect to store ice enough in that place to last all summer. I would recommend the project for apple keeping, and for the keeping of milk and butter and various other luxuries, but, as Prof. Massey may remember, I have been keeping apples for over 20 years in a very successful manner, without the use of ice. The last of the apples that were taken out from that ice cellar on the 10th of June were Bonum, in part. Now, however, about the use of the ice; last winter, the first of January, I counted out 100 nice Bonum (for a project) and 90 per cent. of 100 lot kept nicely for the three months up to the first of April. These Bonum had no help to their keeping more than the benefits of the fresh night air. As is seen, we are not obliged to use ice, but ice will be a help. Now, a cellar with ice stored above is one of the finest conveniences for any family that might have it. There are hundreds of thousands of families over this wide country that should have the convenience of the luxuries hinted at in this article; and the suggestion now is, let those who have the energy and knowledge to construct lead the way and build, and set up the object lessons for their neighbors, who should follow their lead.

SUMMARY.

As occasionally happens, there is nothing to summarize. We were hoping for a good deal of experience along this line from our Northern friends, and we have but one letter on the topic as presented, and that from a Southern State. Mr. Grabs lives in the colder elevated section near the mountains, and can usually get natural ice. Here, where not more frequently than one year in ten we can get any ice to cut, ice houses are unknown except at the ice factories, and we depend on the ordinary refrigerators in warm weather. In order to have a cold storage room with ice, the receptacle for ice should be large enough to hold a supply through the summer, for that is the time that the cold storage is needed. The method which we illustrated in The Practical Farmer a year or more ago is a perfectly feasible plan, and has been successfully used. The principle is identical with that of an ordinary refrigerator, and when the ice receptacle is properly built and the drainage trapped to keep air out from below, it will keep ice as well as any ice house, and will make the cold storage at same time. Mr. Grabs kept ice until June and then gave it away when his apples were gone. It is probable that it would have kept longer, and that the cold effect could have been of great use for other purposes. So far as the winter keeping of apples is concerned he has no need for the cold storage, as he makes sufficient cold by letting in the night air to his cellar and excluding the day air, and by his method he has a remarkably cool room, as we have had occasion to notice as late as August. But the need for cold storage is just beginning in June, and then the ice will play an important part. We had one other contribution from Arkansas, but as the writer simply refers to the keeping of ice it does not touch the topic. Our Arkansas friend says that he has never been able to keep ice later than April, and thinks it is because he cannot get any thick ice. Thin ice well packed in a properly constructed ice house, will keep nearly as well as thick. In fact, we have filled ice houses with snow, rammed it down and turned the hose on it to settle it, and had ice all through the next summer. The mere keeping of ice depends on the perfect exclusion of air from sides and bottom with well trapped drainage, and free ventilation above. Where we have these conditions it is easy to keep ice anywhere.

Test of the Scales

There is not a time in the life of a mature beef when Dr. Hess Stock Food cannot be fed with a decided profit, as the test of the scales will prove. Dr. Hess Stock Food causes every organ to perform its proper function, it furnishes the laxatives so liberally supplied in grass, improves digestion and assimilation, regulates the kidneys and liver, and in fact forces growth and development by compelling the system to appropriate to bone and muscle building the nutrition contained in the food eaten.

Dr. Hess STOCK FOOD

is the only scientific stock tonic on the market. It is formulated by Dr. Hess (M. D., D. V. S.). If the medical and veterinary colleges know of nothing better it must be good. No unprofessional manufacturer can equal it.

Our Information Bureau.—For any disease or condition for which Dr. Hess Stock Food is not recommended, a little yellow card enclosed in every package entitles you to a letter of advice and a special prescription from Dr. Hess (M.D., D.V.S.). In this manner you are provided with a universal treatment for all stock diseases, either in the Stock Food itself or in the special prescription to which the little yellow card entitles you. Indorsements from physicians, scientists and feeders furnished on application.

Dr. Hess Stock Food is sold on a written guarantee, 100 lbs. for $5.00 (except in Canada and Pacific Slope); smaller quantities at slight advance. Fed in small dose.

DR. HESS & CLARK,
Ashland, Ohio.

Also Mfgrs. of Dr. Hess Poultry Pan a-ce-a and Dr. Hess Healing Powder.

Dr. Hess Stock Book Free.—A complete treatise on stock and poultry disease, written by Dr. Hess (M. D., D. V. S.), and sent free, postage paid, if you will write Dr. Hess & Clark, Ashland, Ohio, and say what stock you have—how many head of each kind; what stock food you have fed, and mention this paper. Prof. W. S. Goss, Dean of Talladega (Ala.) College, says of it: "I think Dr. Hess' Book a little gem. I shall keep it near me for reference."

Instant Louse Killer Kills Lice.

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula for a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections; also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative Powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 847 *Powers' Block, Rochester, N.Y.*

A Complimentary Letter from Dr. C. G. Hopkins, of the University of Illinois, on a pamphlet issued by Mr. Robin Jones, 14 R, Steger Bldg., Nashville, Tenn., on Tennessee phosphate rock, which will doubtless be of interest to our readers, reads as follows. Mr. Jones will be pleased to mail this pamphlet to any person interested: "I thank you for a copy of your pamphlet, 'Tennessee Phosphate Rock.' I shall appreciate it if you can send me twenty copies of this pamphlet. I shall be glad to use it in connection with my correspondence regarding ground phosphate rock. I warmly commend the honest and generous manner in which you have put material together in this pamphlet. It is one of the few trustworthy advertisements which I have ever seen relating to fertilizers. It appears to be entirely without misrepresentation, and you have even included quotations which to some extent advertise other kinds of fertilizers. It does one good to see an advertisement of this sort which does not bristle all over with apparent selfishness and greed. The quotations which you have taken from my publication are, so far as I have observed, copied correctly and without any thought whatever of misusing any statement which I have made."

THRESHERS and Threshing Engines, Saw Mills, Machinery and full line of Ag. Implements. Free catalogue. A. B. Farquhar Co., L't'd., York, Pa.

"How to Make Dollars out of Wind" A free book. Send for one. M. CAMPBELL FANNING MILL CO., Ltd., 111 Wesson Ave., Detroit, Mich.

Swan's Standard Roofing Fire-Wind Waterproof. Put on with knife and hammer. Sample free. A. F. Swan Co., 115 Nassau St., New York

SALZER'S Seeds Never fail. Send 10c. for catalog and rare seed samples worth $10 to any farmer. JOHN A SALZER SEED CO., La Crosse, Wis.

Hunters' & Trappers' Guide A $5000. BOOK 300 pages, cloth bound, illustrating all fur animals. All about trapping, Trappers' Secrets, all kinds of traps, decoys, &c. Special Price $1, to fur shippers postpaid. We buy Raw Furs, Hides. Price List free. ANDERSCH BROS., Dept. 854, Minneapolis, Minn.

BEAT THE COAL BARON by buying a wood saw and sawing your own and your neighbors' wood. We make a full line of circular and drag saws. Each is the best of its kind. Our tread powers are the best powers for running wood saws or other farm machinery. We make a full line of Ensilage and Fodder Machinery, Threshers, Engines, Fanning Mills, Round Silos, etc. Send for full descriptive catalogue. We mail it free. HARDER MFG. CO., Cobleskill, N. Y.

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4% ASSETS $14,500,000.00

A Safe and Profitable place for your money is an Investment Account with this bank—pays Four per cent. compound interest on all amounts from One Dollar up. Our Banking by Mail system brings our Bank to your postoffice. Write to-day for explanatory booklet F4

PITTSBURGH BANK FOR SAVINGS SMITHFIELD & FOURTH AVE ESTABLISHED 1862 PITTSBURGH PA

Acme Harrows Indestructible. Cheapest because the best. Send for cat. DUANE H. NASH, Sole Mfr., Millington, New Jersey, and Chicago.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

No Painting Required

on Arrow Brand Asphalt Ready Roofing. Can be easily laid, as the work only consists of nailing and cementing the joints. Samples, prices and booklet giving instructions for laying, sent free, postpaid. Asphalt Ready Roofing Co., 80 Pine St., N. Y.

STEEL ROOFING.

Strictly new, perfect, Semi-Hardened Steel Sheets two feet wide, six feet long. The best Roofing, Siding or Ceiling you can use. We furnish nails free and paint roofing, two sides. Comes either flat corrugated or "V" crimped. Delivered free of all charges to all points in U. S. east of Mississippi River and north of Ohio River at $2.25 PER SQUARE. Prices to other points on application. A square means 100 square feet. Write for Free Catalogue No. 224 on material bought from Sheriffs' and Receivers' Sales. CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., Chicago.

FLINTKOTE ROOFING

Keeps the animals warm and dry. Lasts for years and is fire and vermin proof

The FLINTKOTE FOLKS 70 India Street BOSTON, MASS

3.90

Christmas Gifts

Photography is very fascinating and a good camera is highly appreciated. Here are two new styles, perfectly reliable, guaranteed to give satisfaction. The Thornward Reliance Daylight Loading Film Camera, on the left, is particularly desirable for consecutive daylight exposures, as it can be loaded, reloaded and operated without recourse to a dark-room. The other, our Premium Folding Camera is a high-grade, beautiful instrument, which, when closed, measures but 2⅛ in. thick by 5⅛ x 6 in. Both cameras make popular 4x5 pictures. A complete description cannot be attempted in this small space, but can be found in our complete catalogue of Cameras and Photographic Supplies, sent gratis on request. We will say here, however, that these cameras are fitted with all the new and desirable appliances and cannot be bought elsewhere at our price. The immense volume of our business makes large profits unnecessary. Send for Photographic Catalogue TODAY.

With Case and Plate Holder 4.90

46 Montgomery Ward & Company, Chicago 32 years World's Headquarters for Everything.

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

General Purpose Paste.—A paste and glue that will mend anything is made as follows: To two ounces clear gum arabic take one and a half ounces of white starch and one-half ounce of white sugar, granulated. Dissolve the gum arabic in a cup of water and dissolve the sugar and starch in this mucilage; add at least half a cupful more water; put all into a dish that can be suspended in a kettle of boiling water and cook until the starch becomes clear. If too thick for good mucilage, add hot water until of the consistency that suits. The cement should be as thick as tar for mending dishes, etc., but to use where store mucilage is used this will be too thick. It can be divided into two parts, one left thick and one thin, to suit for the different uses. The addition of camphor or cloves keeps the glue from spoiling. Keep covered tightly. An article every housekeeper needs, and this is good.

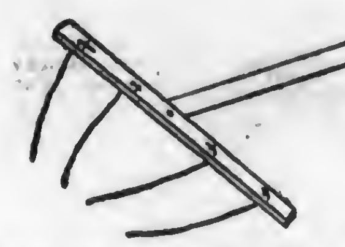
R 2, Macedonia, O. MRS. M. RICHARDS.

For Filling Cracks in Floors.—Soak old newspapers in a paste made of one pound of flour, three quarts of water and one tablespoonful of alum, thoroughly boiled together. Make the mixture as thick as putty with the paper, having it just so it will spread in the cracks smoothly. It will harden like papier mache.

For Frost-Bitten Feet get balsam of copaiba at drug store and apply freely. Wrap in cotton. It will smart at first, while drawing out the frost, but relief is sure, as in 5 minutes you will attest the fact.

R 1, Athens, O MRS. ADA H. PARKER.

Handy Potato Scratcher.—When your potatoes are plowed out you will find this essential. Take two pieces of pine board, one 1½x1x6 inches, the other for a handle. It may be of any length desired. Into the cross-piece place four prongs of No. 9 wire. Place into piece, as shown, fastening the wire on top of it with staples.



ELMER A. HOFFMAN.

R 4, Sigourney, Ia.

Heel Protectors. — Mothers may save themselves a great deal of darning by making heel protectors for wear inside of shoes and outside of stockings. A yard of canton flannel will make dozens of pairs. Make from two pieces like the heel of a stocking or an old-fashioned baby's cap. Don't hem, and run the single seam flat.

Some Useful Suggestions.—To get rid of the smell of paint in a room stand a pail of fresh water, in which a handful of hay has been put, in or near the centre of the room. To make a bicycle lamp burn brightly put a pinch of salt in the oil. To cut new bread smoothly use a heated knife.

Berlin, Md. R. P. HANDY.

How to Manage the Oven.—The following are good rules for the inexperienced about heating an oven. On baking day place a piece of paper in the oven. If too hot the paper will quickly blacken and burn up, while if it turns a delicate brown the oven is right for pastry. If it turns dark yellow, cakes may be baked; if light yellow, it is safe to put in biscuits, tea cake or sponge cake. To be just perfect, baking powder biscuit should begin to rise the minute the pan is in the oven. MRS. J. W. SPARKMAN.

Middle Fork, Tenn.

To Keep Apples Fresh.—Take a sugar barrel, cover the bottom with sand, put in a layer of apples, then cover with sand, and so on until barrel is full, leaving the last layer covered with sand. Keep barrels in cool cellar. Last winter we kept Russet apples as fresh and crisp as when first plucked until quite late in the spring, and I see no reason why any winter variety should not keep the same way. O. R. ROBERTSON.

R 3, Alma, Mich.

Fire for Hen Mites.—I find fire to be the best remedy to keep the poultry house clear of lice and mites. First the perch poles must not touch walls of building. Make torch of a piece of cloth, 12x12 inches, well saturated with coal oil. Wrap tightly around one end of stick some 3 or 4 feet long. Light torch and hold under roosts, passing slowly from one end of pole to the other, and all mites, as well as their eggs, will be quickly destroyed. Repeat once a week and you will be comparatively free from this troublesome pest. I have tried this for four or five years and am well pleased with results.

R 2, Paoli, Ind. JAMES L. NOBLITT.

Boy's Overalls.—Instead of buying my little boy's overalls ready made, at 35 to 40 cents for a poor article, I cut a pattern and bought some remnants of blue denim and made his overalls at a total cost of 12½ to 15 cents per pair, thereby not only getting them cheaper, but getting better workmanship and a decidedly better fit. They are so nice for a little boy in summer time for every-day wear, when you don't want to bother with many buttons and buttonholes.

Ardmore, I. T. MAUD CLINE.

Mending Steel Knife Handle. — The following directions will be found to be a quick way to mend steel knives, the handles of which have become loosened or come off: Pour a little powdered resin into the handle of the knife; heat the part of the knife which fits into the handle until it is red-hot, and then thrust it quickly in. When it is cool the handle will be found to be firmly fixed.

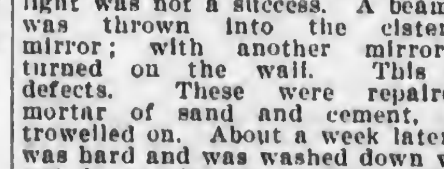
To Keep Away Mice. — Mice have a wonderful antipathy to peppermint oil, and some of it placed around their haunts will successfully keep them away. There are many who are continually fighting these pests and as poisons are frequently objected to, this will be found a boon indeed.

Waddington, Cal. E. E. KEOHAN.

Remedy for Boils.—The best remedy I have found for boils is to take a small amount of sugar and mix with soap, which apply to the boil by spreading on a cloth somewhat larger than the boil. Be careful in using the sugar, as it takes very little. A good remedy for poison oak is to bathe the affected parts in copper water. ERNEST L. EDDINGS.

R 6, Springfield, Tenn.

Corn and Cane Knife.—Every farmer has old goose-neck hoes worn too thin to be useful as a hoe. Take one of these, heat the shank red-hot and twist the blade around until on a line with the handle. Cut off handle to 18 to 24 inches long; sharpen blade with file and you have a good corn and cane knife. I use one that I made thus and it is the best balanced knife I have ever handled. It is very simple, but good. J. L. ROGERS.



Blum, Texas.

Carriage Top Dressing.—Equal parts good soft soap and coach varnish thoroughly mixed and rubbed on with a cloth is fine for carriage tops, leather or rubber cloth.

Repairing Cracked Cistern. — The walls were thoroughly washed down and water and dirt removed. A whitewash of cement and water was thoroughly brushed over the wall. Inspection of wall by lantern light was not a success. A beam of sunlight was thrown into the cistern with a mirror; with another mirror this was turned on the wall. This showed all defects. These were repaired with a mortar of sand and cement, equal parts, trowelled on. About a week later the surface was hard and was washed down with a broom wet in a mixture of strong sulphuric acid, an ounce to a quart of water, to kill the lime on the surface and prevent hardening the water. The cistern once more washed out is ready for use. By turning off the spout until the roof is well washed at each rain, the water may be kept clean indefinitely.

Davison, Mich. E. HOLLENBECK.

Red is the color of danger, whether on the semaphore or on the skin. When the face is reddened by eruptions, when boils break out on the body, or the angry red of sores and ulcers is displayed in the flesh, it is nature's danger signal. The blood is obstructed and tainted by impurities, and there can be no safety until the blood is made pure.

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A great deal of this land which is heavily timbered will be sold at just the value of the timber itself with no charge for the land; and in other cases where there is only a little timber but amply sufficient for farming purposes we will sell just for the value of the land with no charges for the timber. We will sell land in lots of 40 acres up.

You Get Mineral Rights Also.—Owing to the fact that the upper peninsula of Michigan is known to be rich in mineral resources, especially iron and copper, it is the custom to reserve all minerals from the sale of land.

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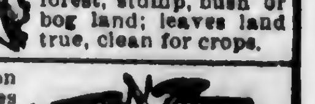

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Prefers Stock to Legal Tender.—Last spring we had a horse to sell, for which we asked $130. We had several offers under our price, but hung on expecting the right man would come along some day. It has been our theory during our experience as practical farmers, that there is a time, a place and an opportunity which come to all alike, in which to do that they think will be to their best interest if they will only hang on until it comes and then grab it and hold on. And so the buyer we were looking for did come along and with the cash, too. But he said he had a nice O. I. C. sow due to pig in a short time, that he would like to put in at $25, or would pay all cash if we preferred. We told him to bring on his sow, as we preferred her to legal tender. The sow raised seven fine pigs. We pastured them through the summer and fattened them on our part of Michigan's poor 1902 corn crop, and sold them for a fraction less than $80. So you see, brother farmer, that farming is like all other trades, in that it pays best when we keep our eyes open and press onward and upward; not backward and downward. It takes a lot of wiggling at times in any occupation, but I believe the farmer who does his best, his level best, and does it every day, will some day come out on top. Cash is not always preferable to thrifty growing stock.

Cleaning Soot from Carpets.—In taking down the pipe of a soft coal stove I carelessly let several joints fall, emptying the accumulation of months on a new carpet. It was an awful mess! One of my city friends happened in then and almost made me feel like squalling, for she said it never could be cleaned, but was ruined. She left and another good friend happened in, looked it over and said she could fix it. She swept it as clean as possible first, then went at it with a scrub brush, using salt. When the salt became black she swept it off and put on more, and kept on doing this until it looked almost as well as before. She finished with gasoline, rubbing it with clean white cloths until they showed no signs of soot. DORRIS D. MATE.
Owosso, Mich.

Saving.—Few people are so underpaid but that they could, if they would, lay aside something for the rainy day. In saving it is the small things that count and build up capital. Who are the masters of finance today? Without exception the men who in boyhood formed the habit of living within their income and saving a portion of the same for future use; in providing for prosperity and happiness in time of sickness or loss. A young man who forms this habit is not driven to the blank wall of despair; he can secure that cherished hope of every man, a home of his own free from overbearing landlords; a home that will make every day of his life happier. The man who is known to save a portion of his earnings advances in the community in which he lives, he is respected, his credit is good and he is on the right road to success. Saving teaches the value of money, also habits of economy and frugality. The man who saves is the best citizen; he has experience which makes him of value in his community. Teach the children to save, for childhood is the time to mould for good or ill and these traits in youth become lasting. This advice will apply to everyone, especially the farmer. There are thousands of men working in towns who see their day at shop, desk or counter must soon end, and they are looking to the country for a home. And if they have used proper economy in the past they may win the prize. THOMAS PATTON.
Mosgrove, Pa.

Earning Money.—If one wishes to earn a little money at home and is handy with the needle, and quick, I can offer some help from my experience. I first made some aprons for a dry goods store. They let me have the goods and I cut the aprons and made them according to their directions. One must be neat so the aprons will not be soiled in the least. After your work is ready press it nicely and do up. I received three and five cents apiece, according to the work. It was small, but a number of dozens brought it up to quite a nice little sum, and it was surprising how much I was able to get from the store in goods for my work. They liked my work and soon found other things for me to make, such as collarettes, petticoats, night shirts, and lastly I took up dress skirts at 50 cents each. If there was any little fixing to be done they would call on me. The demand for special order skirts increased until I had all I could do. I soon learned to take advantage of my work, many weeks making as high as twelve skirts and earning $6, besides doing quite a lot of house work. I was kept busy over four years, sometimes having help, I was so rushed. Of course, I could earn much more than those who make sale pants, but I worked too hard, so had to drop it, and now do only my own work. Had I been contented to work according to my strength, I might be sewing now. From my experience I thought someone might get an idea that would help them to earn money. Be sure to do your work well and neat, thereby creating a demand for it.
Corinna, Me. MRS. GODFREY GILBERT.

Parsnips.—Perhaps all do not know that parsnips are good to cook in the fall and winter. While they are not quite as sweet as those dug in the spring, yet they are delicious, and a little sugar may be added if desired. I have cooked them with our boiled dinner as early as October 8th, and they were excellent. So if you have plenty of these in your gardens this fall, use some by all means; if not, remember to have an extra allowance sowed next spring. The best way to keep them for winter use is to put them in a box and cover with sand or dirt so they will not wither or become wilted. They keep fairly well simply covered along with the potatoes. Beets and turnips should also be kept in this way. MRS. J. C. WHEELER.
Tula, N. Y.

Cotton Farming.—When I first came on the farm I made a mistake. I had an offer to work a piece of land on shares, the owner furnishing everything but the labor; or he offered to rent me the land and sell me team and tools on credit. I chose the former, because I would not owe so much. When I gathered the crop I had $850 worth of cotton and 150 bushels of corn to be divided between us, and the land rent was just $175, and feed and repair bills $75, making his total cost $200, leaving him for use of team and tools $225 and 75 bushels of corn. He offered to sell me team and tools for $200, and I had paid him $225 in cotton and $37.50 worth of corn for the use of them.
Poindexter, Ark. ENOS C. PITTMAN.

To Fill Cracks in Plaster. — Simply use vinegar instead of water in mixing your plaster of Paris. The resultant mass will be like putty and will not set for twenty or thirty minutes, whereas if you use water the plaster will set almost immediately and become hard before you have time to use it. Push it into the cracks and smooth off nicely with a table knife.

Slicing Pineapple.—The knife used for paring a pineapple should not be used for slicing it, as the rind contains an acid that is apt to cause a swollen mouth and lips. They are nice shredded with a silver fork; then you are not apt to get the core in, which is very tough. Cook but a very little, for much cooking toughens them.
Napoli, N. Y. MRS. A. L. BOARDMAN.

Succeeding with Small Means. — I will tell the readers of The Practical Farmer of one way in which people of small means can be successful. Provide the housewife with an account book and get her to keep a strict account of everything that is bought for family use, from postage stamps up to everything they eat and wear. Then the husband should not buy anything but what she sends for. Give her a certain allowance every week and tell her she can have all she will save out of it to spend as she pleases. She will thus be more saving and will try to see how much she can save during the year, and very often husband will be surprised. In most homes there is many a dime spent that could better be saved if the housewife knew just how much she was spending. If you are in debt this will be a great help in getting out. And if you are out of debt this will help you to keep out.
Danville, Va. MRS. JOHN N. RAGSDALE.

Flowers for Cemetery Use.—If any of the sisters want something pretty for temporary use in the cemetery, try white portulaca until you can get something else established. Or of you prefer, get a packet of mixed seed and have all colors. It is lovely, and I know of nothing that will withstand dry weather so well. MRS. E. A. MILLS.
Bluff City, Tenn.

Saves The Practical Farmer Entire.—A year or more ago a reader of The Practical Farmer told how he clipped and preserved in a scrap book recipes and other items of value. I am a great scrap book man, too, having several well filled ones, but I never think of mutilating The Practical Farmer. The fact is, I would hardly know what to save and what to reject. Mr. Terry's weekly articles are alone worth to me more than any other farm paper I know of. The veterinary, editorial, poultry and all the special departments are helpful and valuable. I carefully save all the copies of The Practical Farmer for future reference. Last winter for six subscribers I procured a copy of Mr. Terry's book, "Our Farming," and let me say right here that I would not take ten dollars for it if I could not get get another. It is beyond question the best book of the kind ever written. J. W. HOWLAND.
Windsor, Mo.

Remedy for Burns. — By far the best thing that I ever saw used for a burn is equal parts of lime and lard. Just mix it up as a salve, spread it on a cloth and apply directly to the burn. No matter how bad the burn may be, the salve gives instant relief, and if fresh applications are made often it will prevent scars even where the burn is very bad. This is something that one nearly always has on hand and is very quickly and easily applied. My mother once used it on a little boy who was burned nearly all over the body. He was in convulsions when she got to him, but by the time she got the salve applied to all the burns, he was quiet and never screamed again as long as the poultices were kept fresh. Use slaked lime. This is almost magical, it relieves so quickly. MRS. C. L. RICHARDS.
Prairie Grove, Ark.

Scrap Book. — I wish to tell Practical Farmer readers how a progressive farmer may make a model scrap book. In the first place get two first-class seed catalogues. Now from a large blank book cut every other page and at proper intervals paste the resume of each vegetable, fruit or plant as given in the catalogues. Below can be inserted valuable articles from newspapers and practical hints from friends, books or actual experience. Being alphabetically arranged, you can in a moment turn to any department desired. The farmer nowadays is recognized as a student of science and no one learns it all. If you use Maule's catalogues in this work, under vegetables your entries would be "Artichokes," "Bush Beans," etc. T. M. THORPE.
Oakleite, Va.

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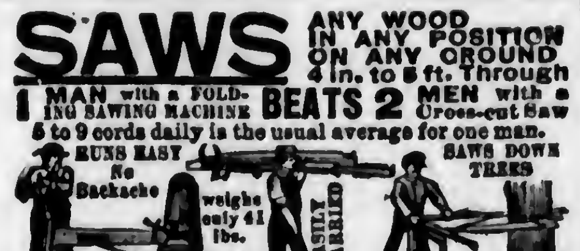

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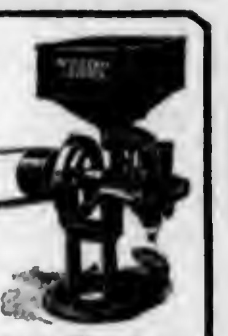

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Don't waste your money by purchasing a cheap stove. Get an honestly made one even if does cost a trifle more. Our stoves are all honestly made and sold at remarkably low prices. Our free stove catalogue describes our handsome base burners, also a score of other styles—all good, all low priced. You cannot afford to buy until you have heard from us. Simply write a postal card and ask for stove catalogue. We will send it promptly. Address
MONTGOMERY WARD & CO.
Michigan Avenue, Madison & Washington Streets
CHICAGO

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

For Sale or Exchange. One fine registered Cheviot Ram. A good and sure breeder. FRED PATTON, Route 3, Charleston, Ill.

Evaporator for sale or exchange for incubator. Capacity 24 bushels every 12 hours. Will sell for $20, cost $70. J. T. MCLEAN, Leeche's Corners, Pa.

Wanted. Two wood cutters for nice pine trees, at 75 cents per cord. Northern men preferred. Particulars by letter. Capt. GEO. GREENE, Everett, Va.

For Sale. A bargain. New 70 ton hard pine stave Silo. Also want good man with some means to take charge of farm. S. HARTZELL, McDonald, Tenn.

Farm 98 acres, five miles from station, 500 pear and apple trees. Fair buildings. Old age my reason for selling. J. D. SPRING, Perrineville, Monmouth. Co., N. J.

For Sale. 100 acre farm, 60 in cultivation. Log buildings, outside range for stock, plenty of water. Close to church and school. Price $1000. E. C. LYON, Dawn, Coffee Co., Tenn.

For Exchange. A chance for young men. Will exchange limited territory on a new patent right for a 1st class guitar or field glass. Address, T. H. HUGHES, Geroldstown, Tenn.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

For Sale. Wheel Dump Scraper, Syracuse Sulky Plow, Keystone Corn Husker and a Birdsall Traction Engine. WANTED. Manure Spreader, Hay Loader, Hay Tedder and Sheep. L. FOSTER CROWELL, Seneca Falls, N. Y.

For Sale or Exchange. Two Holstein Bulls. First bull, Paul Wayne De Kol, four years old, bought from the famous Yeomans' herd. Second bull, Paul Wayne De Kol, 2nd; two years old. Both are well bred, well marked, gentle and get good stock. Also Collie Pups, $3 to $5. Best of breeding. W. M. HALLOCK, Spencer, Tioga Co., New York.

If You Want Fruit farm or a tract of orchard land well located, on the Blue Ridge mountain, near railroad. Or a small farm with orchard and dwelling. Also a large belt of saw timber. Virginia is full of opportunities for the investor. Mild climate, good water, best of fruit, the place for a man of small means or health seekers. Describe what you want. Address W. S. RODES, Afton, Va.

Farm for Sale. 75 acres, ½ mile from a thrifty growing town with railroad and water facilities. 9-room dwelling. Fine shade and good water. Apple orchard 50 trees, peach orchard 200 trees. Pears, plums, chestnuts, grapes, filberts, etc. Especially adapted to truck and berries. Constantly running stream of water 250 yards from barn. Could be made an ideal fish pond. Price $3,000. Easy payments. SILAS SPARKLIN, Federalsburg, Md.

PATENTS Forty-eight page Book Free. Highest references.
FITZGERALD & CO., Dept. G, Washington, D. C.

If you have not been able to get a
HYDRAULIC PUMP OR RAM
and are in need of one, we are just introducing our new standard Hydraulic Pumps, the simpliest, best, cheapest, and most convenient in every way, and you can secure one at cost by writing the
STANDARD HYDRAULIC PUMP CO.,
ROANOKE, VA.

Factory Price
Direct to You
We are the only general merchandise house which owns, controls and directly manages a vehicle factory. We build our vehicles from the ground up and know what's under the paint. We add but one small profit to the cost of material and labor, hence our customers are getting a better made job in a finer finish and at a lower price than can possibly be secured elsewhere.
$19.80 "LEADER" Road Wagon — Imitation leather trimmed; carpet, wrench and shafts; just as illustrated. Write for further description.

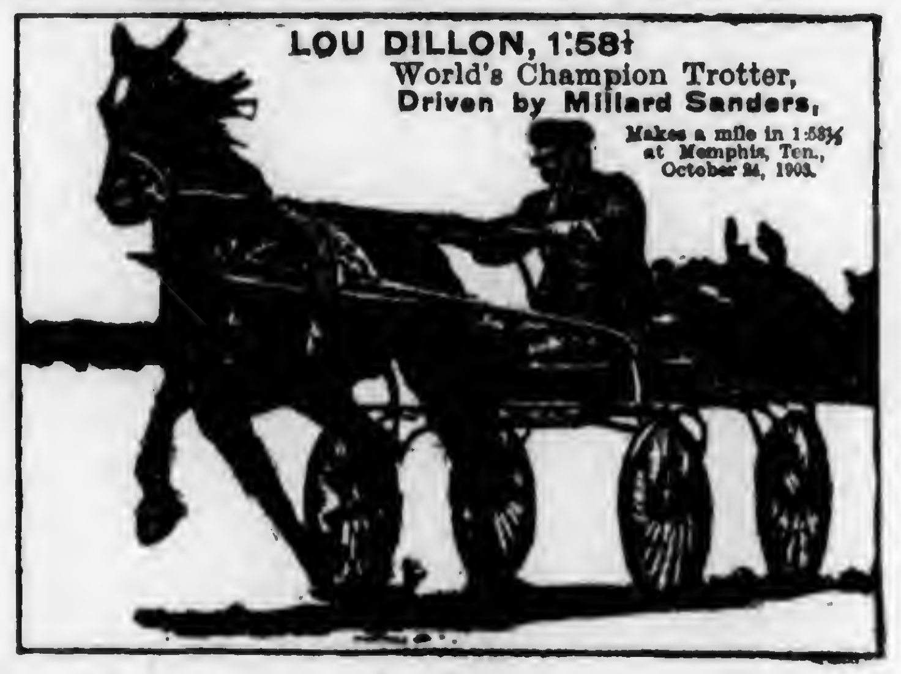
$25.50 "CHALLENGE" Buggy—24 in. body, cloth trimmed; top, back and side curtains, storm apron, carpet and shafts. Write for details.
We also have better grades up to the very best and most stylish that can possibly be put together.
VEHICLE CATALOGUE FREE. Send for it today. It will give particulars about the above work. It also illustrates and describes the newest and best line of Runabouts, Stanhopes, Buggies, Phaetons, Surreys, Carriages, Carts, Spring Wagons, etc., ever quoted direct to the buyer. It explains the difference between good and unreliable work—between the hand-painted and the dipped buggy—and also explains our Guarantee of Satisfaction and
50 Days' Trial Offer.
Send a postal today for our Vehicle Cat. No. E1.
Montgomery Ward & Co.
Chicago
A special circular quoting our entire line of Sleighs, Sleds, etc., will be sent at the same time, if you request it. 46

MAJESTIC SELF FEED SHELLER.
This labor-saving machine meets the imperative demands of large farmers, feed stores, mills and elevator men. It is furnished either mounted or unmounted with wagon box elevator or double sacking elevator as illustrated. Its capacity is
75 to 100 Bushels An Hour.
The mounted sheller is peculiarly adapted to carrying on a profitable neighborhood business in custom shelling. It will not choke, is perfect working in sacking and feeding attachments. Built for long, efficient service and fully guaranteed. We make 20 styles of shellers, both hand and power. Ask for free catalogue.
KEYSTONE FARM MACHINE CO., 1048 N. Beaver St., York, Pa.

The 1903 Shredder Blades
(Patent Applied for)
make efficient shredders out of "Ohio" Feed and Ensilage Cutters. The New Shredder Blade is the regular "Ohio" knife with solid integrally projecting bits which cut and tear corn stalks into a nicely shredded condition, as shown in the picture. It makes corn-hay of the fodder.
Shredder Blades are interchangeable with knives on all sizes "Ohio" Cutters. They successfully reduce fodder to the proper condition and do not pulverize the leaves like other styles. They shred with the same power, speed and capacity as "Ohio" Cutters, and either the Chain or Blower Elevators handle the shredded corn perfectly. Speed, 600 to 700 revolutions. Power, 2 Horse Tread up to 12 h. p. Engine according to size. Let us send the 1903 catalogue of "Ohio" Cutters and Shredders. "Modern Silage Methods" 10c, coin or stamps. Manufactured by
THE SILVER MFG. CO., Salem, Ohio. Established 1854.

ARMOUR'S BLOOD MEAL Cures Scours in Calves.
First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhea of all animals.
PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.
A Potent Food for Work Horses, Dairy Cows, Poultry.
Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.
THE ARMOUR FERTILIZER WORKS,
Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

"SAVE-THE-HORSE"
Registered Trade Mark
SPAVIN CURE



LOU DILLON, 1:58½
World's Champion Trotter,
Driven by Millard Sanders,
Makes a mile in 1:58½ at Memphis, Ten., October 24, 1903.

To The Troy Chemical Co
Troy N. Y.
Dear Sir Please send me one
more bottle of "Save the horse"
It is doing great work—
Respectfully
Millard F. Sanders
7. Driving Park Glenville
Ohio

September 7, at the Fasig-Tipton sale at Sheepshead Bay, a yearling by Esher-Excellenza was being sold by Mr. William Easton, and when the animal was led into the ring he said:—"This horse has been suffering from a bog spavin, of which practically no trace remains. He was treated with that remedy called 'Save-the-Horse,' which all of you know, and it did save the horse; that is, it cured him. Now, you know lots of great horses, Morello and others, were successfully raced, and there is no reason to expect that this colt will ever take a lame step.' The bidding opened then at $250, and the colt was sold for $800 to Mr. J. D. Smith.

"Private Stables Jas. Galway, Race Track, Saratoga, N. Y.
I got a bottle of "Save-the-Horse" first of Moseman & Bro. of New York and used same on ringbone, curing it entirely. I next used 'Save-the-Horse' on two splints and cured them. Have also used it on a strained Pastern Joint, which made horse very lame; it cured this also. I predict a great output of 'Save-the-Horse.' It has never failed to cure any case I used it on." EDWARD FEAKS, Trainer for Jas. Galway, of 312 West 56th St., New York, the millionaire owner of Meltonian and many other noted horses.

Cured horses are absolute certainties as to the possibility of the remedy for your own case. Such results as above by men whose reliability can be readily ascertained, have carried "SAVE-THE-HORSE" over skepticism, prejudice and uncertainty. Send for booklet and copy of written guarantee, which is as binding to protect you as the best legal talent could make it. No man need see his horse suffer and become incapacitated.
"SAVE-THE-HORSE" Positively and Permanently Cures BONE and BOG SPAVIN, THOROUGHPIN, RINGBONE, (except low ringbone,) CURB, SPLINT, CAPPED HOCK, WINDPUFF, SHOE BOIL, WEAK and SPRAINED TENDONS and ALL LAMENESS. Cures without scar, blemish or loss of hair. Contains no mercury or poisonous substances. Can apply in all conditions and extremes of weather. Horses may be worked as usual.
$5.00 per bottle. Written guarantee with every bottle given under seal and signature, constructed solely to satisfy and protect you fully. Need of second bottle improbable, except in rarest cases.
$5.00 per bottle at all druggists' and dealers', or sent express prepaid.
TROY CHEMICAL CO., TROY, N.Y. Also manufacturers of Veterinary Pixine.

A Golden Rule of Agriculture:
Be good to your land and your crop will be good. Plenty of
Potash
in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.
GERMAN KALI WORKS,
93 Nassau Street,
New York.

A Perfect Woven Fence No short wire ends to injury of stock. Heights 18 — 24 and up to 54 inches. Free catalog.
CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

ADVICE TO MOTHERS
Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

LAWN FENCE
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Cemeteries and Churches. Address
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Barb Wire Will be Higher.
Our prices advance after January 1st. It will pay you to write today for our special wholesale prices on Wire. Catalogue of farm, lawn and Poultry Fence, FREE
CASE BROS., COLCHESTER, CONN.

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Just As Soon As
you get through experimenting, you'll be using Page Fence. Our lithographed catalog tells why!
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.
OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

THE BEST
(FROST BEST CHEAPEST)
is always the cheapest, at a fair price. Why not buy the Frost fence that will last a lifetime. It contains more weight, twice the strength and three times the wearing qualities of the woven wire fabric. Catalogue for the asking. THE FROST WIRE FENCE CO., Cleveland, O.

Wire Fence
Build it yourself of Coiled Steel Spring Wire with our Woven Wire Fence Machine. Cost Light. Service Great. Beats any ready made fence. Write and learn why. We will tell you how to get a fence at cost of wire only. Illustrated Catalogue FREE.
Carter Wire Fence Machine Co.
Box 206 Mt. Sterling, Ohio.

BROWN
16 to 35 Cents Per Rod.
Heaviest, strongest, most durable fence made. All wires extra large. We sell to farmers at wholesale prices.
Coiled Spring, Barb and Soft Galvanized Wire.
WRITE FOR CATALOGUE
The Brown Fence & Wire Co.
Cleveland, O.

GRINDS AND CRUSHES
Ear and Shelled
Corn, Oats, Rye, Etc.
to a medium degree of fineness for feeding purposes.

PATENT APPLIED FOR

$15 For a Crusher and Grinder
Don't Buy a Grinder of any kind until you get our catalogue
CRUSHER ROLL crushes the ears and at the end of crusher we place either fine or coarse grinding plates.
FINE PLATES are for ear corn, shelled corn, oats, rye and other small grains, where a good medium degree of feed is wanted.
COARSE PLATES are for ear or shelled corn where coarse chop feed is wanted and for CRUSHING EAR CORN to prepare it for a French buhr or any other mill not having a crusher. Crushes 25 bus. an hour. Can be run with 1 to 15 horse power or power windmill. Strong and durable—made of steel and iron. Hopper holds full sack of corn. Latest thing out and revolutionizes ear corn crushing and grinding.
CUT THIS AD OUT and send it to us and we will mail you free our Special Farm Machinery Catalogue. It illustrates and describes 41 styles and sizes of grinders suited to all uses.
Marvin Smith Co., 55-59 N. Jefferson St., Chicago.

MAKES 500-LB. HOGS AT ONE YEAR

International Stock Food Co., OAK GROVE, VA.

GENTLEMEN:—I could not farm so profitably without "International Stock Food," especially for calves, pigs, hogs, etc. Some of my neighbors who do not use it have lost all of their hogs from cholera while mine are all healthy and growing rapidly. I butchered a hog last year that dressed 510 pounds at thirteen months of age and it was fed "International Stock Food."

Respectfully yours, R. G. PENDLETON.

3 FEEDS FOR ONE CENT

We Have Hundreds of Thousands of Similar Testimonials and Will Pay You $1000 Cash to Prove That They Are Not Genuine and Unsolicited.

If You Cannot Obtain "International Stock Food" In Your Town we will agree to ship you 100 pounds or over of "International Stock Food" without money or note and you can feed it Four Months with the agreement that if you are not perfectly satisfied with results you need not pay us a cent. Write for Special Offer to International Stock Food Co., Minneapolis, Minn. Correspondence Answered Promptly.

A $3000.00 STOCK BOOK FREE

BOOK CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.

The Cover of this Book is a Beautiful Live Stock Picture Printed in Six Brilliant Colors, and Without Any Advertising on it. Size of book is 6½ by 9½ inches. It cost us $3000 to have our Artists and Engravers make these Engravings, which are the finest engravings of Horses, Cattle, Sheep, Hogs and Poultry that you have ever seen. They are all made from actual photographs and are worthy of a place in any library. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains Life Engravings of many very noted Animals. It Contains a Finely Illustrated Veterinary Department That Will Save You Hundreds of Dollars, because it describes all common diseases and tells you how to treat them. The Veterinary Illustrations are large and scientific and better than you can obtain in any other book regardless of price.

WE WILL PAY YOU $10.00 CASH IF BOOK IS NOT AS DESCRIBED

WE WILL MAIL ONE COPY OF THIS BOOK TO YOU ABSOLUTELY FREE, With Postage Prepaid, If You Will Write Us At Once, letter or postal card, and ANSWER THESE TWO QUESTIONS:

1st.—NAME THIS PAPER. 2nd.—HOW MUCH STOCK HAVE YOU?

Address At Once.... INTERNATIONAL STOCK FOOD CO., MINNEAPOLIS, MINN., U. S. A.

A BEAUTIFUL COLORED PICTURE OF THE CHAMPION STALLION DAN PATCH 1:56¼ (Size 21 by 28) MAILED YOU FREE IF YOU SEND FOR THIS BOOK

Largest Stock Food Factory in the World.
Capital Paid In, $1,000,000.
775,000 Feet of Space in Our New Factory.
Contains Over 16 Acres of Space.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Jersey Co., 15 miles from Jerseyville, the county seat. Very dry weather; no rain for several weeks. Wheat looks good. Most of the corn gathered; late corn not good; big crop of hay, but rain of July and August spoiled a great amount of it. Have telephones. Bottom lands, $30 to $40 per acre; horses high; hay, $6 per ton; wheat, 78c.; potatoes, 70c.; corn, 42c. per bu.; eggs, 20c. per doz.; chicks, 7½c.; turkeys, 14c. per lb. G. B. WELCH.
Kemper, Ill., Nov. 23, 1903.

Located in Washington Co., 3½ miles northwest of Johnson City. Weather very cool and dry, and heavy frosts; a very dry summer and fall. Farmers through sowing wheat; wheat very small for time of year; wheat crop not very good; corn reasonably good and mostly gathered; oats not much of a crop; sweet potatoes and Irish potatoes half a crop. Butter, 20c. per lb.; eggs, 18c. per doz.; chickens, 8c.; turkeys, 8 to 9c.; hogs, 6½ to 7c.; cattle, 2 to 3c. per lb.; wheat, 90c.; corn, 60c. per bu.; hay, 75c. per cwt., 90c. baled; good horses, $100 to $150 each; farm labor, 50 to 75c. per day. We have free rural delivery. JNO. A. SELL.
Johnson City, Tenn., Nov. 21, 1903.

Located in Taylor Co., 86 miles south of Louisville. Land rolling; a good farming country. Land sells from $10 to $25 per acre. Prices: Wheat, 90c.; oats, 40c.; corn, 45c.; potatoes, 60c.; sweet potatoes, 50c.; apples, 60c. per bu.; eggs, 19c. per doz.; butter, 15c.; lard, 12½c.; hens, 7c.; friers, 9c.; cattle, 2¾c.; hogs, 5¼c. per lb. Wheat and peaches a failure; other crops good. Horses, $75 to $125 per head; farm help, $10 per month with board, or 50c. per day. Success to The Practical Farmer. FRANK BROWN.
Campbellsville, Ky., Nov. 23, 1903.

Located in Northeastern Ohio, on a branch of the Lake Shore R. R. Summer was very wet, followed by a fine autumn. Oats and hay a fair crop; corn one-half a crop; apples quite scarce; early potatoes a big crop but small acreage; late potatoes had a hard time with bugs, wet weather, blight and rot. Wheat, 85c.; corn, 65c.; oats, 40c.; potatoes, 50c.; apples, 75c. per bu.; cows, $25 to $50; horses, $50 to $125 per head; help, $1.25 to $1.50 per day, $15 to $20 per month. A. J. HARMON.
Andover, Ohio, Nov. 23, 1903.

Located in northwest corner of Guilford county, N. C. Weather has been all that could be desired for fall work. We have had good big frost. Acreage of wheat a full crop and well put in, and has come up nicely; corn a good crop; sweet potatoes a very good crop; price, 25 to 50c. per bu. apples very few, no spraying done, price, 75c. to $1 per bu.; cattle scarce; pigs plentiful. Butter, 20 to 25c. per lb.; eggs, 20c. per doz. Health good. Tobacco is our money crop, and is not good and is very low on all grades except wrappers, and they are very scarce. Success to The Practical Farmer. Peas a good crop. WM. N. PEGRAM.
R 3, Kernersville, N. C., Nov. 21, 1903.

Located 18 miles south of South Bend, northern part of Indiana. Land very fertile, corn being chief crop. Buckwheat and oats are raised. The weather is rather cool and some snow flying. Clover and timothy are raised, yielding heavily. Prices: Corn, 45c.; oats, 35c.; buckwheat, $1.85 per bu.; hay, $8 to $11 per ton; eggs, 24c. per doz.; chickens, 9c.; hogs, 5½ to 6c. per lb.; cattle, $5.50 per cwt.; butter, 18c. per lb.; potatoes, 60c. per bu. Labor high and scarce. GEO. W. DROLLINGER.
R 2, Walkerton, Ind., Nov. 24, 1903.

Located in West Carroll Parish, La. Weather very dry at present; no rain since the 12th of August; forest fires raging. Weather warm and windy. Cotton and corn the money crops here. Corn plentiful; cotton about 50 per cent. of a full crop and about all gone to market; pea hay plentiful. Live stock not doing well, on account of scarcity of water. Land advancing in price. Lots of people coming here from other places; all satisfied. Not many Practical Farmer readers here. Prices of produce as follows: Corn, 50c. per bu.; cotton, 10 to 15c. per lb.; pea hay, $10; cotton seed, $14 per ton; beef cattle 2½c. per lb., on foot; milch cows, $20 to $30 each; hogs, 5c. per lb., on foot; eggs, 20c.; chickens, $3.50 per doz. Success to The Practical Farmer and readers. JAMES H. PACE.
Floyd, La., Nov. 23, 1903.

Located in eastern part of Maryland, Caroline Co., Denton the county seat. Weather has been dry for a few weeks, but wet now. Wheat very poor, only half crop; fine crop of corn; buckwheat good; tomatoes and potatoes fine; apples very scarce; fall wheat up and looking fine. Prices: Wheat, 77 to 82c.; corn, 50c.; sweet potatoes, 50c.; Irish potatoes, 50 to 60c. per bu.; cattle, $25 to $40; horses, $50 to $175 each; hogs, 8c.; chickens, 9 to 10c. per lb.; eggs, 28 to 30c. per doz.; butter, 18c.; ducks, 12c.; turkeys, 15c. per lb. Like The Practical Farmer very much. MRS. G. N. BUTLER.
Denton, Md., Nov. 23, 1903.

I report again after six months. Weather cool now; in midst of a cold wave; lots of plowing being done. Not much land selling now. Almost a total fruit failure this year; everyone expecting a large fruit crop next year. Corn, 35c.; wheat, 70c.; oats, 30c.; potatoes, Irish, 75c.; sweet, 35c.; cow peas, 80c. per bu.; horses, $50 to $150; cows, $15 to $50; hogs, fat, 4½c.; stock, 5c. per lb.; eggs, 20c. per doz.; chickens, 8c. per lb. CHAS. C. COTTRELL.
Springdale, Ark., Nov. 19 1903.

We are having regular winter weather, which caught a great deal of corn and fodder in the field not husked. The dry spell was broken by two or three days rain before the freezing weather began; if it had not rained water would have been scarce in the streams for stock. Corn is selling at 65c. per bu. in the field; potatoes, 80c.; apples, $1 per bu.; hay, $17 per ton; flour, $4 to $6 per bbl.; chickens, 9c.; ducks, 10c.; butter, 28c. per lb.; eggs, 25c. per doz. E. R. I. FREELAND.
Barrackville, W. Va., Nov. 24, 1903.

We are having one of the finest falls this year we have had for a long time. Everything just lovely; leaves just falling; no snow yet. Pretty cold lately. Wheat looks well; crops fine; stock fat; work going on fine; corn gathering in full blast; not a very heavy crop; late corn loose on cob; early corn heavier; hay fine, but damaged some in stacks. More stock cattle passing North this year than common. Good many feeding here. Hogs scarce, prices going down all the time; we are ruled here by St. Louis and Kansas City markets. Hands scarce; wages good; health fine; farmers renting out their farms and going to town. Success to The Practical Farmer readers. MRS. J. W. HICKMAN.
Tipton, Mo., Nov. 21, 1903.

Located in the Western Pennsylvania gas belt, which has caused a great excitement for the last five or six years. Land has advanced one-half in price on account of so many coal firms trying to buy all coal in reach. Farmers have fall work nearly done. Corn has been a fair crop; potatoes a good half crop, large in size but scarce in a hill. Apples a fair crop and cheap; peaches good; plums, prunes and other small fruit good; cabbage two-thirds of a crop, destroyed a great deal by lice. Grain all threshed; wheat a fair crop; oats not nearly as good as expected when in the sheaf. Prices: Wheat, 70c.; oats, 45c.; corn, 48c.; buckwheat, 63c.; potatoes, 60c.; apples, 50c.; turnips, 25c. per bu.; butter, 25c. per lb.; eggs, 25c. per doz. Weather wet and cold. KELLY GEARHART.
Templeton, Pa., Nov. 24, 1903.

Located in Southern West Virginia. Extremely dry fall and wheat very poor. Fall pastures short and feed of all kinds scarce. Owing to the dry weather not over one-half of the corn crop gathered yet. A fine crop of apples grown this year, but are rotting badly. Plenty of stock cattle and prices low. Horses, $50 to $150 each; hogs scarce and high; sheep, $2 to $4 per cwt.; corn, 50c.; wheat, 80c. to $1; apples, 50c.; potatoes, 50c. per bu.; pork, 8c.; butter, 20c. per lb.; eggs 20c. per doz. Our principal markets for produce are in the Pocahontas and Flat Top coal fields. R. T. FLESHMAN.
Peterstown, W. Va., Nov. 23, 1903.

◆

Michigan Land.—In this number will be found an advertisement of the Upper Peninsula Land Co., 813 Washington Arcade, Detroit, Mich. We advise a careful reading of this ad. The location in question is one of the best in the country in which to make homes, contiguous to good markets, with an intelligent population, and rich in all the elements which make a desirable community. If you are looking for a new location here is your opportunity. The company is reliable and furnishes gilt-edged references. In writing this firm be sure to mention The Practical Farmer.

IMPROVED KEMP MANURE SPREADER
Spreads manure better than it can possibly be done by hand.
KEMP & BURPEE MFG. CO., Box 38, Syracuse, N. Y.

Fully Guaranteed.
DITTO'S TRIPLE GEARED Ball Bearing FEED GRINDER.
Sold on trial. We ask no money in advance. Try on your own farm, if not of largest capacity, easiest running and most durable, don't keep it. Circulars free.
G. M. DITTO, BOX 55, JOLIET, ILL.

DON'T NEGLECT YOUR EYES
Carlton Hughes, P. O. Dept., Washington, D. C., was restored to sight in two months by Dr. Oneal's home treatment. If your eyes are troubling you in any way you can be cured at home, quickly and at small expense. THE ONEAL DISSOLVENT METHOD has cured many thousands of the most serious cases of cataracts, scums, granulated lids, and all other causes of blindness in all parts of the world. The knife is never used. Cross-eyes straightened—a new method—without the knife or pain. Always successful. Mrs. F. Abitz, Guttenburg, Ia., cured. Send for illustrated book on eye diseases and many testimonials, and Dr. Oneal's advice and opinion which are all FREE
OREN ONEAL, M. D., Suite 912, 52 Dearborn St., Chicago.

$48 TOLMAN RANGES $25.75
with high closet and white enamel lined reservoir (or water front.) Great Foundry Sale. We ship range for examination without a cent in advance. If you like it pay 25.75 and freight and take range for
30 Days FREE Trial.
If not satisfactory we agree to refund your money. Tolman Ranges are made of best wrought steel. Oven 18 x 20 ins. Six 8 in. holes. Best bakers and roasters on earth. Burn anything. Asbestos lined flues.
Guaranteed 5 years.
Will save their cost in fuel in One Year. Write to-day for our catalogue.
JUDSON A. TOLMAN COMPANY, Dept. W 26 66 Lake Street, Chicago.

LAMBERT GASOLINE ENGINES
are the result of thirteen years conscientious work of gas engine building. In running qualities, simplicity and ease of handling, they are approached by few and excelled by none. Absolute safety distinguishes all. We make STATIONARY AND PORTABLE powers. Stationary from 1½ to 70 h. p., portable from 2 to 15 h. p. Electric spark igniter, superior governor, relief lever to secure easy starting, automatic relief valve, are some distinctive features. All parts removable without disarranging others. Every engine receives hard working test before leaving factory. Catalogue free. See our low prices before buying.
S. LAMBERT GAS & GASOLINE ENGINE CO., Anderson, Indiana.

THE PRACTICAL FARMER.

Vol. 87. No. 24. Philadelphia, December 12, 1903. Price, 5 Cents. {$1 per Year in Advance

THE KEYSTONE TO SUCCESSFUL FARMING

Published weekly by
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Hired Help Problem.—"What Would Terry Do?"

A letter from J. Van Loon, La Crosse, Wis., will be of interest to many who are troubled in something the same way. He has a small farm near this thriving city and a good market for about everything he can raise. Still he says he has become extremely discouraged of late. First, he is 63 years old and cannot do as much work as formerly, and then it is almost impossible to get hired help. Nearness to the city makes men able to obtain good wages for 10 hours work a day. Our friend thinks he cannot pay $1.50 a day, and still his land is in a high state of fertility, and he can, and does, raise big crops. But owing to inability to get needed help when wanted he cannot make the most out of his products. Formerly he raised vegetables and fruit largely, but, not being able of late to get help to take care of them on time, he turned his attention more to farming and keeping cows. But here, too, he has the same trouble, lack of help. Ordinarily in former years it was easy to get all the men he needed. Now he does not know what to do. They dislike to think of disposing of their beautiful farm home, after spending so much time in improving it. "We cannot get the help we need and are not able to perform the necessary labor ourselves," he writes. "What can we do? What would Terry do?" Well, Terry knows just how this good friend feels. He has been there. $1.50 a day seems like a price that he cannot afford to pay. Perhaps it may be a little large as he is now managing. If the men board themselves, however, it is not an exorbitant price for good weather, as times are. Certainly Terry would not get discouraged if he had a productive farm, and beautiful home, and a good market near at hand for all he could raise. One dollar and fifty cents a day for a good man would not discourage him at all, even if he gave him his board extra. Why, bless you, my dear brother, go back with me in our own experience 21 years. Everything we raised, nearly, was hauled in wagons 12 miles over big hills. The house was a shelter, and that was about all, and the same of the barn. We had the land paid for but had hardly begun to improve it. Help cost us about $1 a day, or more, and board, mostly by the month. I had to hire about everything done the last half of the season, as I was on the road nearly all the time. And still we did not get discouraged, but made money and worked our way out. And we did not work but ten hours a day either. We could not keep first-class men and require of them more hours of work than town laborers put in. They began and quit when the whistle blew, as a rule. They were always paid every Saturday night and were well treated. If you do have to pay a little more for labor, see how much easier you can market your products, friend Van Loon. And then you have a good home to live in.

What Terry would do, beyond question, in your circumstances, would be to get one good, reliable man for the season anyway, and then not work overhard himself. (You are discouraged because you are tired and the work drags.) He would study to make the labor of that man accomplish as much as possible. A man along in years can do this planning and directing and some of the lighter physical labor and be the better for it. Surely you can pay a good man all the wages he wants and do pretty well yourself. I would be careful to produce what I could to the best advantage and then enough of it to amount to something. I am not at all certain that I should not employ two good men steadily, after a little, instead of one. Profit comes from well directed labor. In your old age you will find real enjoyment in managing your business successfully, having younger men to do the heavier jobs and keeping within your strength yourself. I would not think of giving up. People must eat. Farm products must go up high enough to balance the price of labor, or labor become more plentiful, if the country is to continue to prosper. These things are certain. They seem to get out of balance at times. The great boom in all business and manufacturing lines has made an extra demand for labor, but busy, well paid men have had more money to buy our products with. There will be a reaction surely, in time. There are some signs of it now. Labor will be more plentiful, and then prices of some products will be lower. Probably a man situated as near a good market as you are can do as well now as ever, if labor does cost more. Farmers who raise grain and meat products, that are governed in price more by the world's supply, may do better when business lags and labor becomes more plentiful. Yes, sir, Terry would push right on and try to raise products that would command an extra price, that would tempt people who had plenty of money, and thus more than make up the extra cost of labor. He would get good help enough to do this by making it an object for them to work for him. This will draw them to the farm, or anywhere else. Then he would try to make this labor count. Thank you, friend Van Loon, for your kind words about The Practical Farmer. "Every issue has something in it of practical value to the farmer, gardener, fruit grower and many other people." Kindly tell this to your neighbors, too, so we can try to help them.

Take the Old Farm, Boys, and Make it Blossom Like the Rose.—The Practical Farmer has a host of friends. Another one of these, Horatio Carter, Newtonville, Mass., writes how through Wm. Henry Maule's catalogue he learned of The Practical Farmer and became a subscriber five years ago. And just think, for seven years he has been confined to his bed, or a wheel chair, by rheumatism. He is 68 years old now, and not a farmer, but he was a farmer's boy and he says: "Now, in my old age, as I read and study these articles in The Practical Farmer, my mind goes back to the old home farm. I can see now how by draining the land thoroughly and following a good rotation of crops, proper tillage, etc., the old farm could be made to blossom like the rose. Could I but get on my feet farming would not be to me only a grind, as it was when I was a boy." Would that thousands of our Eastern brothers who are on their feet could be made to see farming with friend Carter's eyes and to go ahead and make their farms blossom like the rose. Nor is this an over rosy view of the matter, either. These things which The Practical Farmer teaches will pay well under fair business management. The writer certainly would not say so if he did not know it. This farm where we live was once the old home farm for a family of boys. The work was a grind to them. I know them personally. The carpenter I wrote of as helping me last summer, Ransom Sanford, aged 73, was one of them. I wish you could hear them tell of how they had to work, the steady grind and little to show for it. They were not sure of a holiday even on the 4th of July, unless the corn was all hoed. Not one of them would stay on the old farm. But another boy came here, and entirely by means of the methods advocated in these columns he soon made the old place blossom like the rose. The foundation steps were drainage, rotation of crops, clover growing, tillage and manure saving. There was work, of course, but it paid and was not an endless grind by any means. Brother Carter is right. How many boys are there who are anxious to leave the old grinding farm, that does not pay, that will listen to us older men who have made such farms productive, profitable and beautiful? Will you pardon me if I quote a few of the milder words of praise Mr. Carter has for "Our Farming?" "I have been delighted for the last ten days, reading 'Our Farming.' It is now 1.30 A. M., but I shall finish it before I go to sleep. The book must give a wonderful amount of encouragement to thousands of struggling men and women." Thank you, brother Carter. Your kind, appreciative letter is certainly encouraging to us all. I am sure all who are connected with The Practical Farmer earnestly desire to encourage and help just as many people as they possibly can.

When to Spread Manure in Vermont.—Harrows.—A Vermont friend writes as follows: "I do not feel satisfied about one matter, so come to The Practical Farmer for more particular advice. I have a piece of sandy loam, level, well drained land that was in corn this year. I expect to plant corn again next year. Shall I put the manure on this fall and winter as fast as made, or would it be better to pile it in large heaps and spread next spring? Again, what kind of a harrow shall I use on such land? There are no stones in it." If no flow of water will pass over or off from this field in the spring when the snow melts, I should spread the manure evenly, as made, if this plan is convenient for you. It would be some better to spread the manure on sod ground, but in your northern latitude there will probably be but slight loss from leaching down during the winter and spring season, even on sandy loam, stubble land. I think, as a rule, you will find your corn best where the manure was put on early in the winter, better than where it was spread just before plowing. Good soil will hold the fertility that leaches down, practically, and it will be spread through the soil in nice shape for the following crop. Where the winter is open, further south, one should surely sow some cover crop on stubble land to put the manure on, crimson clover, rye or something. There are plenty of good harrows. I could do very well with two, say a smoothing harrow, with teeth slanting backwards, and a cutting harrow, such as the cutaway or disk. Then to stir the ground more roughly, to mix it up more, you can use your cultivator, or a spring-tooth harrow. No single harrow will answer every purpose.

Lead Pipes and Filters for Cisterns.—My friends will please notice that I never advise positively about any matter without having some knowledge on the subject, and usually practical knowledge. I have drank water pumped from cisterns through lead pipes when at home, as a rule, since 1860, in four different houses. The water we use for drinking and cooking is so pumped now. When we built our present house, 20 years ago, I went to Frank Hodge, M. D., who has practiced long in our town, where cistern water is often drank and lead pipes used. I asked him if there was any danger in drinking cistern water pumped through a lead pipe. His reply was: "No, I do so myself. I have never known of any trouble coming this way. As to 'danger,' there can be none anyway, as the symptoms of lead poisoning are so unmistakable that any physician would know what the trouble was at once and it could be remedied before any harm was done to speak of." So it was not on theory, but on an almost life-long experience of myself and many others, in our town, that I based my opinion. Remember, however, that the advice was that there was no danger in using lead pipe to draw cistern water through for home use. I was not writing about long runs of pipe, and for various kinds of water.

Again, in regard to filters, I was only advising about what I know, and very many others know, in this cistern country. The brick wall across near the middle of the cistern serves an excellent and practical purpose. Such filters have been in use here a long time. We put one in 20 years ago, again another about 8 years ago at Robert's house, and a lead pipe, too. This after trying a charcoal and gravel filter thoroughly. Our cistern water is usually as clear as well water. The brick wall is less trou-

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ble and less expense than using a charcoal filter. It is difficult to get charcoal now that tinners have stopped using it. The latter plan is a good one, and all right, when the filter is properly constructed and used, as explained so plainly by Prof. Massey lately. I advocate the brick wall plan because it is so simple and cheap and within the reach of all and so little trouble when once in. After 20 years of use the mortar in our filter wall has not "disintegrated" at all. Knowledge is better than mere theory. As our cisterns are usually built 8 feet or more across, a brick wall across near the middle in no way hinders a man from getting down to clean both sides of the wall. Most of the sediment is left on the side where the water comes in, but not quite all of it. Water will carry a very little in solution through the bricks, and then it will settle. And so it did through charcoal and gravel. The best I could do there would be some sediment in the bottom of the cistern after a time. Our farm homes here are back from the road far enough, and are high enough, so "road dust" does not get on the roofs to any extent. The waste from fuel burned and from birds are our troubles. As we burn only wood and hard coal the fuel does not affect the water much. Prof. Massey's plan, of a large, deep cistern to fill with water for summer drinking during cold weather, when the roof is clean and free from birds and the water is cold, is an excellent one. We tried it for years when living in town. The water was very clean and kept fairly cool all summer without ice. This was before the days of refrigerators. Now we have a porcelain-lined water cooler in one end of our refrigerator ice box. The ice comes against the outside of this but cannot get into the water. This makes the water just about the temperature of freshly drawn well water, about as cool as we think it healthful to have drinking water. Where birds get on the roof much I would advise friends who want the purest and best rain water to drink and cook with to put in an extra and deep cistern and fill it only in winter. We cannot be too particular about having our drinking water pure. In many parts of the country cisterns are almost unknown. Some drink water that is altogether too hard, and do not even have soft water to wash in. I hope this discussion may cause many to decide to build cisterns next spring.

T. B. Terry.

* * *

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* * *

Tall Meadow Oats Grass.

C. ARMENTROUT.

I wish to give my experience with Tall Meadow Oats grass. In the fall of 1890 I sowed two bushels (10 lbs. to the bushel), as advised, on two acres of land. I found later that I had not sown it thick enough, but as the seed was a little expensive, I kept it until in 1892 I cut a crop of seed. We sow it with wheat in the fall as timothy seed. In the fall of '92 I sowed from two to three bushels of seed to the acre, on wheat as before, sowing on land that was inclined to wash. [It would seem that you mean 1902 and not 1892.—Ed.] At this time I have never seen such a growth of grass, and should be mowed now. It forms a fine sod, close and compact; makes a much better sod than orchard grass, similar in some respects to orchard grass, roots deep into the soil, consequently stands a drought better than timothy, and is of continuous growth. When a crop is taken off it starts up fresh and vigorous and often, I am told, makes two crops in the year. Comes on very early in the spring and can be mowed the latter part of May or first of June. I knew a gentleman who raises 800 to 1,000 bushels seed annually which he sells readily at a fine price. After it is mown or the seed is taken off, it affords fine pasture for stock both late and early. When kept alone for pasture, by its rooting so deep, stock do not injure it as much as other kinds of grass. It is known by many as "an evergreen grass." Grows all winter unless the weather is very severe. Makes fine hay. Stock eat it in preference to timothy. From my experience I am much pleased with the grass. Would like to hear from others who have had experience raising it. Think it would do well, sown with clover for hay, as it ripens about the time clover ripens.

Augusta Co., Va.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Stock Beets. — F. C. Curtis, Sandy Creek, Me.—"For nutritive qualities and yield which is the best beet for stock? Is the New Giant Half Sugar mangel, so highly praised in seed catalogues, as desirable as the sugar beet?" We grew our last crop of stock beets, we think, in 1886. In that season we kept a strict account of the cost of growing the mangels, harvesting, storing and feeding them. We also kept an account of the corn grown for ensilage on the same quality of land without fertilization, while the beets were heavily fertilized. The soil was a mellow, moist bottom land capable of making 50 bushels of corn without fertilization, and with good cultivation. It did make, by actual weight, twenty tons per acre of ensilage. The result of this experiment showed that it cost three times as much to produce a ton of beets that it did to produce a ton of ensilage, and that the storing and feeding involved a greater amount of human labor. In feeding, the results with the beets were no better than with the silage. In fact, it has been shown at more than one Station that corn silage is fully as valuable for feed, ton for ton, as beets. We have not planted a mangel since then, and though not now running a stock farm as we were then, have seen no reason to change our mind, and if going again into the stock business, we would not waste time, land and labor in the growing of beets of any kind for stock feeding when we could produce corn silage. Of course climate will have some influence on anyone's practice. Beets will probably grow better in Maine than further South, while it may be hard to get the weight of silage per acre from the smaller growing corn of Maine as from the heavy corn of the South, so that the value of the two crops may come nearer together. The improved sugar beets will have the highest feeding value per ton, but it is probable that a greatly larger yield can be had from mangels that may make up the difference. As we have never grown the New Giant Half Sugar mangel we cannot give an opinion about it. Perhaps some of our readers may be able to tell you about it.

Sundry Queries. — F. W. Hutchins, Philadelphia, Pa., suggests the following for the Experience Pool, but as they are hardly available topics for this purpose we will endeavor to reply. "Can a tobacco bed spot be used continually? If so, how can its fertility be kept up and the grass kept down?" "Can poor land be improved more quickly with a two-year rotation, where crimson clover and cow peas can be grown?" We suppose that the same spot might be used for a tobacco bed if plenty of wood and brush is burned on it every winter to destroy weed and grass seed, but it is far better to select a new spot in a sheltered place near the woods where plenty of material for burning can be had. Nevertheless, we have grown tobacco plants with perfect success in an ordinary cold frame covered with glass sashes, which was used for plants year after year. In this case the seed was sown in rows in the bed and cultivated and kept clean. Earlier and stronger plants can be grown in this way than by the old way of burning a bed, and if we were engaged in tobacco culture, as we are not now, we would always use the glass covered frames, as we could sow the seed later and get stronger plants with more certainty than by the old method. To your second question we would say that one can accumulate humus more rapidly, for a time at least, in a two-year rotation. We know of one farmer who has been growing wheat in this way for a number of years. He breaks the land with a 3-mule team followed by another 3-mule team with a subsoiler, as soon as the wheat is off the land. He then sows cow peas with a dressing of acid phosphate and potash, and cuts a great crop of hay, and at once disks the land thoroughly, making the surface fine and at the proper season, here after frost in November, sows wheat again. Lands all around him make an average of 8 bushels of wheat per acre, while he makes from 25 to 30 bushels on land of the same natural character, or what the soil survey calls "Cecil clay." The danger in such a rotation is that after a while he may get an excess of nitrogenous material in his soil, and make too great a growth of straw, so that it may lodge and fall. In another instance a field that would hardly make 10 bushels of corn per acre had crimson clover sown among the corn at last working. This was plowed under the next spring and corn planted again, and the crop was better. The clover was again sown, and the process kept up for a number of years till the corn crop was 50 bushels per acre following the clover. The same land last fall was sown in wheat without fertilizers and as the season was a bad one for wheat the crop was not over 10 bushels per acre. But as soon as the wheat was cut the land was plowed, turning under a dead growth of crimson clover that had been sown with the wheat, and planted in corn, and a good crop has been made. This, of course, is only possible in the long season of the South, making a wheat crop and a corn crop on the same land in one season. It is a common practice in the South to sow peas among the standing corn and let them die on the land and plow them under in the spring for corn again. These very short rotations may do very well for a while, but it is far better and more business-like farming to put all the crops grown into one rotation, and so arrange the rotation that the money crop will have the best chance in it. That is, to so farm that the subsidiary crops will all tend to increase the productivity of the land in the money crop, and while a two-year rotation may enable one more rapidly to get the needed humus into the land, we may soon get the soil into an acid condition that will be unfavorable to the legume crop, and it will be better to lengthen the rotation to three or four years.

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Fertilizers for Irish Potatoes.—F. C. Curtis, Sandy Creek, Maine.—"Can as good a yield of potatoes be obtained when planted on a clover sod, with rock phosphate and muriate of potash, depending on the clover for nitrogen, as when the nitrogen is supplied by your formula with nitrate and cotton seed meal or dried blood? How much time is usually required after sowing the clover before it is in the best condition for plowing under? Is it necessary to use any nitrogen with clover sod for potatoes?" Incidentally, our friend says that the formula for potatoes we have often given in these columns is hard to beat, as both he and one of his friends who used it, have found. Climate and soil will have a great deal to do with the answer to your questions. In the South Atlantic trucking section, where large areas and large crops of potatoes are grown, it is absolutely essential to use nitrogen liberally for this crop, as it is grown entirely through the early spring when the nitrification of the organic matter in the soil is not active as it is later, for the North Carolina crop goes to market the last of May and early June. Where the potato crop grows through the summer there is less need for the nitrogen. But we are of the opinion that even in Maine some percentage of immediately available nitrogen will pay better on the potato crop than depending entirely on that furnished by a clover sod. The clover is an important aid, not only in furnishing some nitrogen, but in furnishing moisture-retaining humus and in rendering the soil slightly acid and thus checking the growth of the scab fungus. Clover sown in the spring should be allowed to make the second year's growth before being used for the potatoes. If the application of the formula given you pays so well even on a clover sod we would continue to use it, though we believe that in your climate there is not so much need for it as there is for the early crop in the South. If the clover sod is plowed under in the fall and rye sown on the land and turned under for the potatoes, we believe there would be, in your section, little need for much nitrogen in the fertilizer. But why not experiment in a small way for yourself. If the crop was corn instead of potatoes we would say no nitrogen would be needed, for the corn goes through the whole hot season when nitrification in sod is very active.

A Little Pennsylvania Farm.—C. L. Bais, Alverton, Pa. — "I have a small farm of 38 acres, 10 of which are in grass and the rest seeded to wheat and grass with a good stand. Has been run down by being rented out. Have plenty of limestone and my own coal, and have been using lime, but lime alone does not give the desired effect. Have been thinking of buying a few cows and trying the dairy business, and am thinking of feeding all feed in the barn, winter and summer, as the place is not fenced into fields. Will be glad for any suggestions as to the improvement of the place." On so small a farm it would never be advisable to pasture, even if you had the land in fields. You are right in getting cows, for the dairy is about the best thing on such a place. You should by all means have a silo and grow corn for ensilage. Then put the land into a rotation that will bring you as much green feed in summer and silage in winter as possible, and by degrees you can increase the feeding capacity of the farm as you make manure and use it to make the corn ensilage. Divide the land into three parts as nearly equal in size as convenient. Plow the 10 acres now in grass for corn next spring. Plant the corn thickly in rows for ensilage and not so thick but that it may make good ears. Get your silo ready and when the corn is in the roasting ear state cut it and store in the silo. The 10 acres, if fairly fertile, should make at least 75 tons of silage. Cut half of the wheat green to feed in the barn when it is in the milk state, and at once plow the stubble and sow cow peas to cut later green for feed. Save the other half of the wheat as grain and keep the straw for bedding. Follow the corn with wheat to be used for green feed, and during the fall and winter haul out all your manure on the pea stubble to plant it in corn the next season. The rest of the wheat field being in grass, you can mow it the next summer for hay, and manure it in the fall for the corn the following season. Then you can settle into a regular rotation of ensilage corn, followed by wheat seeded to clover, and will have the clover to cut for green feed until it gets too far advanced, when the rest may be made into hay. By feeding all the corn in the shape of ensilage, and all the hay and green stuff made, you will soon have manure enough to cover the corn field each year, and you will be getting a larger amount of ensilage annually as the land increases in productiveness, and as you increase in the means for feeding you can increase the number of cows, and finally use all the wheat green for feed. Then if you make only butter, and turn the skim-milk into pigs you should soon be able to make the little farm very rich, for the making of butter only carries no fertility away from the farm as the selling of milk does. But in starting a butter dairy you should make it a point to keep only the best butter cows, and learn to manage the milk so that your butter will be a really gilt edged brand and a brand that will be taken by the best private custom at the highest market price. Then you can mix hairy vetch with the wheat and increase the value of the hay, for there is no better hay than that made from a mixture of wheat and vetch. This is simply a brief outline of what we would try to do with such a little dairy farm. Feed everything you grow and take care of the manure and return it to the land. Make the best of butter only, and keep the best of dairy cows only, and there is no telling what can be done with a small piece of land.

Improving Land. — C. B. Brown, Wiseville, Va.—"I have a piece of land which I wish to improve. Have covered it with manure and it is now in rye. It is a rotten stone soil. What crops can I put on the land to improve it, and make something on it, too? It is nearly level." You can cut the rye and thresh it, and can easily sell the grain and the straw in Richmond if you are not keeping any stock. You do not say how much there is of the land, but from what you write we suppose it is but a small piece. After the rye is cut, break the land thoroughly and apply a mixture of five parts acid phosphate and one part of muriate of potash at rate of 300 pounds per acre. Harrow this in well, and sow the Wonderful cow pea at rate of one bushel per acre. Cut this for hay when the pods turn yellow, and then prepare the land well with a cutaway harrow and seed to rye again, with clover, using 15 pounds of clover seed per acre. Then if you can get the manure, give the land a top dressing of manure lightly after sowing the rye. If you fail to get a stand of clover from the fall sowing, sow again in the spring. Then if you get clover on the land give it a light dressing of lime the following spring, and you will have the land in shape to grow crops. You can cut the clover for hay and the next season break the sod for corn after again manuring it, and by that time you will have the land in order to grow anything.

Sweet Potatoes.—Seed Corn.—W. A. Williams, Bowie, Tex. — "Will sweet potatoes mix from vines or tubers where vines do not bloom? How far North could I go to get seed corn and be safe in realizing a sure crop in this section the first season? Is Maule's Drought Proof corn grown far enough South to depend on for a crop the first season? Have been a constant reader of The Practical Farmer for ten or twelve years." Plants mix only through the seed being set by pollen from other plants of a similar species. Hence there can be no mixing of sweet potatoes where they do not bloom and ripen seed, and even if they did, the mixing would only show in potatoes raised from the seed. But the sweet potato often makes what gardeners call "sports." That is, a plant may from some unknown cause change its character to some extent and differ from the stock from which it was grown, and will retain this character. In fact, most of the varieties of sweet potatoes have come about from this bud variation. The Vineless varieties were simply sports from running sorts, and we have had them occur in patches with others of the same variety that made long vines. You are well up in North Texas, but it is hard to say what would be the result the first season from corn brought from further North. The Drought Proof corn would probably do as well as any, but we would try any new corn on a small scale at first, and stick to the corn that has been grown in your section for the main crop, endeavoring to breed it up by a good selection of seed annually. Corn grown in Central Georgia would be likely to do well with you in Northern Texas.

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Live Stock and Dairy.

Factors in Swine Breeding.—II.

PROF. A. M. SOULE.

The pigs should be weaned at from six to ten weeks old, depending on the season of the year, the number in the litter and the ability of the dam to supply them with plenty of milk. Several weeks before weaning they should be taught to eat for themselves. If milk or rich kitchen slop are unavailable, make a thin slop of wheat middlings or shorts and feed from a V-shaped trough with a board across the top that will permit the pigs to put their heads in but prevent them from getting into the trough, and so arranged as to keep the mother out. If trouble is experienced in getting them to eat, a little syrup or molasses added to the milk to sweeten it will generally overcome the difficulty. Once they have learned where to find the food and acquire a taste for it, no trouble will be experienced in feeding them. Finally, if there is one thing above everything else that is important in the care and management of the brood sow and her young ones it is the exercise of common sense.

HOG BARNS AND SHELTERS.

Hog barns need cost but very little in the South, owing to the mildness of the climate and to the fact that the animals will do much better if kept as much as possible on the open range. The buildings should be situated in a grass lot of considerable size, depending on the number of hogs to be maintained, so as to be convenient of access at all times. It should face the south and may be closed on three sides if deemed necessary. It should be divided into pens of convenient size, which may be 8x10 or 10x12 feet. Some of these pens should be especially reserved for the brood sows at the time of farrowing and should have a board 6 inches wide securely fastened to the walls on three sides about 6 inches above the ground. This will protect the young pigs and prevent the sow from lying on them. The feeding trough may be V-shaped and have a board placed across the top to prevent the hog from getting into it when eating. It may be built in the form of a manger and arranged so as to feed from the outside, or set on the floor of the pen. It is probably better to build it in the form of a permanent manger as the feed can be put in easier and the trough can be drained and cleaned to better advantage. The buildings should be situated on a high, dry piece of ground provided with good drainage. Where a large number of brood sows are kept small yards should be constructed at the back of the farrowing pens to permit them to take exercise in bad weather and before the little pigs can follow them out on the range. A dirt floor will be as satisfactory as anything else, and sufficient bedding should be kept in the pens at all times to keep them dry and clean. A small quantity of some strong disinfectant should be scattered about the pens once a week and they should be cleaned out often enough to keep them in the best sanitary condition, as it is the only sure way of fighting disease. A shed of the kind suggested, with a shingle roof, can be built very cheaply indeed. In one end of the barn a feed room should be constructed, so as to have the feed convenient to the animals. If corn is to constitute a large portion of the food, build a platform in the pens about 4 or 5 feet high on which to store the grain. Then if the hogs are fed a little corn each day they will come home to sleep at night so their condition can be observed and any sick animals given immediate attention, which will often prevent the spread of disease, as in the case of an outbreak of cholera.

Hog barns may be constructed in innumerable forms to suit the fancy or circumstance of the individual. The individual farrowing pen is the one preferred by many breeders, and may be constructed on the principle of the larger shed already described. If a more elaborate barn seems desirable, it may be constructed after the plan of the one now in use on the University farm, which is 18x80 feet, with a feed room in one end 16x18 feet, and 16 pens 7x8 feet, and a 4-foot passage down the centre. Eight of these pens are intended for fattening animals and are of sufficient size to accommodate four or five large hogs. The feeding troughs are stationary. Hinged gates are swung from above directly over them, so adjusted that the feeding can be done from the outside. The doors to the pens are 4 feet wide and opposite each other so that if desirable, hogs can be transferred across the passage to the open yards without any difficulty. The building is capable of housing and caring for a large number of hogs where a breeding herd is maintained, or it would be equally useful and advantageous on a farm where pork production was the chief end in view. The completed building cost $400. Aside from having a few farrowing pens for the brood sows, all the average farmer need do is to construct a shelter for his fattening hogs by sinking four posts in the ground and making a roof of boards with battens to break the joints. If plenty of leaves or straw are available, the hogs will be comfortable and grow and thrive even in the most severe weather. Above everything, the lot selected for the hog barn should be well supplied with shade, as that is essential, especially in warm weather. Hogs, to do well, must be kept comfortable and healthy at all times.

THE WATER SUPPLY.

Water is also essential for hogs, although it is not desirable that it should be supplied by means of a spring or running stream through the hog lot, as it is very likely to become contaminated and not only breed destruction for the owner's herd, but carry disease germs to all the farms lying below his. It is quite likely that hog cholera, the most virulent disease the breeder has to fight, is frequently spread through running streams which have become fouled by diseased animals drinking from them. It is better to have the stream outside the hog lot, so arranged as to give the hogs free access to it for drinking purposes only. "Wallowing holes" can be easily constructed without endangering the water supply, and the wise breeder will give the matter attention. A large box containing a mixture of salt, ashes, charcoal, copperas, etc., should be kept in the individual pens and in the hog lot as well. One of the best mixtures suggested for giving to cholera stricken hogs is given in Farmers' Bulletin No. 24, and is as follows: Wood charcoal, 1 lb.; sulphur, 1 lb.; sodium chloride, 2 lbs.; sodium bicarbonate, 2 lbs.; sodium hyposulphite, 2 lbs.; sodium sulphate, 1 lb.; antimony sulphide (black antimony), 1 lb. These ingredients should be completely pulverized and thoroughly mixed. The dose is one large tablespoonful for each 200 pounds weight of hogs to be treated, and it should be given only once a day.

KEEP THE HOGS HEALTHY.

Practical breeders have frequently observed that hogs break down in the hind quarters when fed exclusively on corn. This is due to the fact that corn does not supply enough mineral matter, and hence the importance of having a box of the character suggested convenient for the animals at all times. The best means of fighting hog cholera is to keep the animals in a sanitary condition and in the best of health, which means to supply all the needs of the animal system and to give them sanitary sleeping places and pure water to drink. One of the best means of insuring healthy, vigorous animals is to supply them abundantly waste fruit and green food, such as the pastures mentioned always insure. Any animals dying, no matter from what cause, should be burned and the place carefully disinfected. Numerous disinfectants are now made that are cheap and effective, and an "ounce of prevention is worth a pound of cure," so the sleeping places and the yards occupied by the hogs should be thoroughly disinfected once a week. A suitable sprayer can be obtained for about 75 cents. Hog cholera in the South can never be controlled unless the animals dying with it are immediately burned, as the buzzards and other predaceous animals spread the disease by feeding on the dead and contaminating the streams, leaves, grass and everything with which they come in contact.

If lice are troublesome, a mixture of kerosene oil and grease composed of equal parts, will effectively destroy them. It may be applied with a brush. If the animals cannot be approached in the open, drive them into a lot somewhere and see that the vermin are destroyed, as they seriously discommode the animal, and so retard his growth and development.

The writer is personally opposed to hogs following mules, horses or other animals to gain a part of their living. It is a filthy and unsanitary practice and there are too many other wastes that should be stopped on the farm before crying its necessity as a matter of economy. It is doubtless true that half-digested food is a frequent source of disease now attributed to other causes, and certain it is if the animals "followed" are diseased, they are likely to transmit the same trouble to the hogs.

Tennessee Experiment Station.

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Butter Making on the Average Farm.

H. G. BELL.

A great deal may be said and written about the problem of conducting a dairy, but to the average farmer, in moderate circumstances, who keeps but few cows, much of the advice and direction is futile. The following article it is hoped offers a few suggestions of practical means of overcoming such circumstances, which have been worked out by the Home Dairy of Ontario Agricultural College.

What are the difficulties of the average farm dairyman? He usually states them as follows:

1. A lack of machinery to enable him to follow directions of dairy bulletins.
2. A lack of time to carry out the details outlined for the proper manufacture of butter.
3. The want of a suitable house in which to manufacture his article.

Considerable importance, no doubt, may be attached to these difficulties, but the cause of poor butter may be frequently traced to simpler causes than these. However, we will consider a few difficulties and try to educe a method of meeting these emergencies.

A good quality of butter demands scrupulous cleanliness in its manufacture. The proper place to first supply this requisite is in the stable. The building, no matter of what material, should be clean and bright, preferably whitewashed inside, because much contamination comes from dirty, dusty walls and stalls. The food of the cow should be wholesome and of a kind that will not give a taint to the butter. The drinking water supplied the cow, whether in the stable or pasture, should be fresh and pure, for it is frequently from this source that a great deal of impurities of germ life which cause bad butter, come. I remember seeing a dairy herd, some time ago, pasturing in a rich meadow through which ran a deep ditch. During spring freshets this ditch became the bed of a flowing stream, but as the warm summer days approached it dried up into stagnant pools of dirty, foul water, reeking with decaying organic matter. From such waters the cows had to drink. Early in the summer there was a complaint of bad butter in town. However, the cause is obvious, for an abundance of unwholesome germ life must have been consumed by the herd, and consequently found its way into the product. Before milking the cow's udder should be wiped with a wet cloth, for dust and foreign matter frequently found on it will contaminate the milk if they fall into it. Some form of cover for the milking pail is also advised so that particles of dust and straw may be kept from the milk.

As soon as the milk is drawn from the cow it should be immediately strained through two or more thicknesses of closely woven cheese cloth, and "separated" or set away in deep creaming cans or milk pans. If a separator is used, scrupulous cleanliness should be observed in cleaning every part of the bowl, etc., before using. On most farms the farmer yet makes use of cream pans or deep setting cans. Where shallow pans are used the milk should be strained into them as soon as possible, and they should be set on a cool stand, in a clean, whitewashed milk house. The temperature of this house should be kept as low as possible. However, where any running stream is available, or an ice box can be obtained, deep setting cans are to be preferred. The milk should be strained into them as soon as taken from the cows, and they should stand for at least 24 hours in summer or 36 hours in winter. The chief point, however, is to keep the temperature as near 40 degrees F. as possible. When the cream is taken from the milk it should be kept in a can which is supplied with a good cover. It is very important that cream should be kept in a pure atmosphere, therefore it is not advisable to keep it in a living room. Another very important point is cleanliness. The cream can should be thoroughly scalded before it is used, so that no taints or contaminating germs will get into the cream. The cream should be well stirred when fresh cream is added. The method of handling the cream from this point has already been outlined in a previous article, so we will just mention one more precaution. That is, that the churn and butter making tools should all be thoroughly washed and scalded before use.

Many of the difficulties of butter making, then, may be averted by a few precautions, viz.: 1. Prevent the milk from becoming contaminated by dust, etc. 2. Keep the cream in a pure atmosphere. 3. See that all butter making utensils are thoroughly scalded and washed. 4. See that the butter is made, and packed, or kept in a pure atmosphere. A great deal of butter receives foreign odors and taints by being packed in a tainted box and kept in a "musty" pantry, cellar or refrigerator.

From a close investigation of the causes of bad butter, leading dairymen have concluded that the above are some of the most important precautions to be observed. An excellent quality, certainly can be made in the home dairy if the rules of cleanliness and care are sufficiently observed. Much of the prize butter of this country comes from well regulated home dairies.

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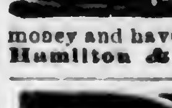

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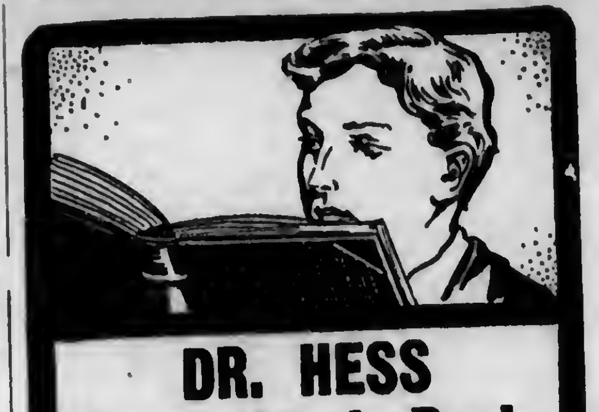

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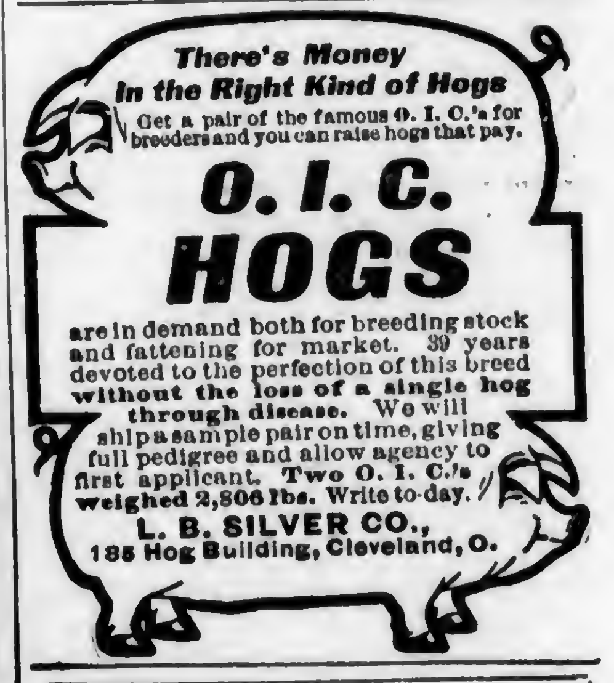

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$5.00 per bottle at all druggists and dealers, or sent express prepaid.
Troy Chemical Co., Troy, N. Y.
Also manufacturers of Veterinary Pixine.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Indigestion. — We have a 10-year-old dark red Western horse, long bodied, that rubs his tail; is in poor condition, with rough coat. Was hard worked in summer and has been in bad condition about two months. Have dosed him for worms but saw nothing pass. At present he is fed a one-sided ration of corn and corn stalks with hay and bran occasionally. He is very greedy; eats heartily but does not get fat. Have not had his teeth examined, but know he has the "lampers." When driven his bowels get loose, but when not in harness he humps his back, and sometimes grunts when his bowels move. SUB.

Sherman Heights, Tenn.

Horse is evidently suffering from chronic indigestion, and this may come from improper mastication of food, due to irregularities of the teeth. "Lampers" so-called is not a disease, but the symptom of general inflammation or congestion of the membranes of the mouth and will disappear when teeth are put in order. Charge for an ordinary case of dentistry is $2 where the animal is taken to the dentist. If veterinarian has to visit the horse he would be justified in charging a fee for the visit in accordance with distance traveled. After teeth have been attended to feed New Orleans molasses and water, equal parts, mixed intimately with cut hay, coarse wheat bran and corn meal. Use at least one quart of molasses night and morning in this way and feed whole oats at noon. Horse should be worked well or exercised every day, and should have a clean, well ventilated stable and soft drinking water. See that hay is free from mould or other taint.

Chronic Laryngitis. — I have a mare mule, nine years old; has a trouble that has been bothering her for 12 months. It seems to be at root of tongue or upper part of larynx. Her throat at that place is a little swollen and lumpy on inner side. When she gets wet or is pushed out of usual gait her breathing is like that of a child with croup. Have rubbed her throat with liniment, and steamed her nose with apple vinegar, which seems to relieve her of the rattling for some time, but on getting too hot or wet with rain the trouble comes on again. J. M. ELIOTT.

Sevierville, Tenn.

The mare is troubled with chronic congestion or inflammation of the larynx, and for this complaint you will find glyco-heroin excellent. It is to be given in one-ounce doses three or four times daily, and dose may be increased if cough or hard breathing do not promptly subside. If this medicine should not fit the case after a fair trial substitute an ounce three times daily of a solution of one ounce of guaiacol (Merck's) in twelve ounces of mucilage acacia. Wet all food and see that she is kept in a clean and well ventilated stable. Another blister to the throat would be beneficial. Use cerate of cantharides for the purpose.

Carpitis.—I have a mare about 10 years old that came from Chicago two months ago. Her left front knee is very much enlarged, about three times the natural size, and very hard and she goes very lame on it.

Wolcott, Ind. DAVID WINTER.

The condition described is serious, and even firing and blistering do not always prove effective. If you cannot have the knee fired and blistered by a veterinarian, clip hair from part and blister twice a month with a mixture of two drachms each of powdered cantharides and biniodide of mercury in two ounces of lard. Rub it in for 15 minutes; wash off in 48 hours, then apply lard daily. Mare must be kept tied up short while blister is acting. See to it that she is tied so that she cannot strike her knee on manger while the blisters are working.

Fits.—Will you tell me what is the matter with my pigs? They are between two and three months old; they get spells just as though they had fits; they fall over and kick around and in a little while they seem to be all right. Do you believe in the black teeth, or is it what we feed? We scald a little shorts and bran and give them a small ear of corn apiece, as we have no milk.

Erie, Pa. S. J. APPELMANN.

The fits described are due to worms or indigestion or both. Black teeth do not cause disease of any kind. Physic each pig with castor oil in milk. Follow with light rations of middlings, bran and dried blood meal, mixing into slop with skimmilk if possible. Do not feed corn. Should fits come on again after this treatment, give for worms in small pigs half an ounce fluid extract of pink root and senna every three hours until it causes scouring. For larger pigs give turpentine in milk at rate of one teaspoonful of former to each 100 pounds, live weight.

Sore. — Please tell me how to treat my horse. The horse is about 11 years old and has had a large sore or ulcer on left side of neck about eight inches below the ear. It began something like a boil on a human and kept getting worse until now it is nearly two inches across and runs pus freely at times. The left eye is very weak, too; the sight is very nearly gone.

Jackson Springs, N. C. E. A. CURRIE.

The sore may have been due to an accident, and it is possible that a foreign body, such as a sliver, is present and keeps it from healing. It would be well to call in a veterinarian and have him make a search for the cause of the pus discharge. We cannot tell you how to treat it intelligently without a personal examination. After the veterinarian sees the case we shall be glad to add any advice possible when we know what causes the condition described. It is improbable that the eye disease is associated with the chronic sore. See answers under head of periodic ophthalmia in previous issues.

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17,000 subscriptions expire with our December 26th number and will be cut off the list at that date if not renewed. Renewal subscriptions must be sent before that date if you want the January 2nd number.

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Dr. Shoop's
Rheumatic Cure
Costs Nothing If It Fails.
Any honest person who suffers from Rheumatism is welcome to this offer. For years I searched everywhere to find a specific for Rheumatism. For nearly 20 years I worked to this end. At last, in Germany, my search was rewarded. I found a costly chemical that did not disappoint me as other Rheumatic prescriptions had disappointed physicians everywhere.
I do not mean that Dr. Shoop's Rheumatic Cure can turn bony joints into flesh again. That is impossible. But it will drive from the blood poison that causes pain and swelling, and then that is the end of Rheumatism. I know this so well that I will furnish for a full month my Rheumatic Cure on trial. I cannot cure all cases within a month. It would be unreasonable to expect that. But most cases will yield within 30 days. This trial treatment will convince you that Dr. Shoop's Rheumatic Cure is a power against Rheumatism—a potent force against disease that is irresistible.
My offer is made to convince you of my faith. My faith is but the outcome of experience—of actual knowledge. I KNOW what it can do. And I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism. I will then arrange with a druggist in your vicinity so that you can secure six bottles of Dr. Shoop's Rheumatic Cure to make the test. You may take it a full month on trial. If it succeeds the cost to you is $5.50. If it fails the loss is mine and mine alone. It will be left entirely to you. I mean that exactly. If you say the trial is not satisfactory I don't expect a penny from you.
I have no samples. Any mere sample that can affect chronic rheumatism must be drugged to the verge of danger. I use no such drugs for it is dangerous to take them. You must get the disease out of the blood. My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met, and in all of my experience, in all of my 2000 tests, I never found another remedy that would cure one chronic case in ten.
Write me and I will send you the book. Try my remedy for a month, for it can't harm you anyway. If it fails the loss is mine.
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Bellows Falls, Vt.
327

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Potato Pointers from Germany.

"Five times as many potatoes are grown in Germany as in the United States, and twice as many per acre," is the report that comes from Consul-General Mason in Germany. With this record in their favor, it might be supposed that the Germans know something about growing potatoes. The reason why we do not secure as large yields, it seems to me, is that we find land comparatively cheaper here than labor, that individuals plant on a larger scale, but care for the crop less thoroughly and carefully. The selection of seed and quantity to be planted, also seems to me to have a great bearing upon the outcome. Whatever the quantity planted, and at whatever intervals the rows or hills may be placed, says the consular report, "the German farmer who knows his business, plants only large, full grown, healthy potatoes. Every attempt to economize in seed by using small, inferior, and therefore unmarketable potatoes has resulted in the further deterioration of the crop, and if continued, in disaster to the farmer. Here, too, the long-continued, careful tests of the agricultural Experiment Stations have produced some surprising proofs of the value of large, perfect potatoes for seed purposes. Seed potatoes are usually planted whole, not cut, as is often done in the United States and other countries. The verdict of scientific experiment is that cutting the seed potato impairs the vigor of the plant, which in its earliest stage of growth feeds upon the substance of the tuber, but all accounts agree that large potatoes cut into sections are much better than small ones planted whole. Before planting, the seed potatoes are taken out of the cellars or buried heap where they have been kept during the winter, and are thoroughly dried in a cool, airy place. If planted with the damp of winter still on them, the danger of rot in the growing tuber is greatly increased."

The American potato grower usually, almost invariably, sorts his product into three grades, viz.: Merchantable potatoes, seed potatoes and culls for stock feeding. The "seed potatoes" are tubers ranging in size from a horse chestnut to a small hen's egg; and they are usually planted whole. And yet they are wholly unfit for seed. That cutting the seed potato impairs the vigor of the resulting plant, may well be accepted as a settled fact. I have demonstrated that fact myself in many years of comparative trials. It is as true as that an undersized potato gives us a weak plant. Every test has resulted in favor of the large seed potato, and it was only considerations of the much greater expense for seed which made us hesitate about planting whole fair-sized tubers. But when, by the persistent selection of unfit seed, or persistent close cutting of the seed, the American grower has continuously weakened the vigor of his potato plants, and reduced his yields, it is not to be wondered at when his yields are only half what they are in Germany, and that the crops have become an easy prey to all sorts of diseases. A change in our general practice of selecting and handling potatoes for seed seems to be imperatively demanded. The point that a potato "with the winter's damp still on it" is more subject to rot than one thoroughly dried before planting, is a new one to me. We usually "green" potatoes which we intend to use for planting. They are exposed to the light, possibly direct or subdued sunlight, for a while, or until they have begun to develop one or more stubby green sprouts, especially at the seed end, when they are in best condition for planting. In this operation, of course, they are thoroughly freed from "the winter's damp."

In regard to change of seed, the consular report says that the scientific German farmer rarely plants seed potatoes from his own fields, but exchanges with his neighbor, or obtains new varieties from the Experiment Station or a more or less remote district. The more radically different the conditions of the new locality are from those in which the seed potato was grown, the greater seem to be the benefits wrought by the change. Potatoes grown on high hill slopes are brought down and planted in valleys; the product of heavy, wet land is planted in light, dry soils; the growth of sandy fields is the best seed for loam or moorland, and *vice versa*. I confess that I have always been a doubting Thomas in regard to the benefits derived from such change of seed. If I grow potatoes in such a way as to preserve the vigor of the plants intact and obtain full yields, I believe seed selected from my own home-grown tubers is better than that secured from Tom, Dick or Harry, whose methods have for years resulted in reducing the vigor of his potato plants, and his yields.

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Aid to Fruit Growing.—The successful fruit grower calls to his help the best up-to-date information in his line of business. Among the best of the publications making a specialty of fruit is Green's Fruit Grower. The Business Management say they will send The Practical Farmer and Green's Fruit Grower, both for one year, and The Practical Farmer Almanac for 1904, all for only $1.10. The information contained in these three publications will be worth thousands of dollars to every orchardist.

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Talks on Timely Topics.

Summer Planting.—A good demand for beets, lettuce, carrots, etc., in the fall, has been the rule rather than the exception for years. The growing of second or fall crops to supply this demand, has often been recommended. Why is it, that we so often let the proper time (July and August) pass over without sowing seeds again for this purpose? Right in the hottest part of the season we are apt to lose our energies and enthusiasm, especially when the soil is very dry and seeds are difficult to get started. But a little extra pains taken with the ground at that time in order to have it in good condition for receiving and sprouting seeds, and in continuing to sow and plant, will usually pay well.

Soil and Manures for Lettuce Under Glass.—Lettuce will grow with some degree of success on a great variety of soils. The Year Book of 1902 (Dep't of Agriculture) truly says that a light or medium clay loam appears to give best results. It is important that the soil should be of such a nature as to offer but little resistance to the passage of roots through it. As a source of potash, sulphate seems to give best results. Phosphoric acid seems to be furnished with equal benefit either in the form of bone black or dissolved rock phosphate; bone black is, however, preferred. The formula used by Stuart (in his experiments) with such good results is to be recommended for lettuce. To a good loam the following ingredients were added to every acre of soil (6 inches deep): Nitrate of soda, 1,503 lbs.; dissolved bone black, 1,503 lbs.; muriate of potash, 1,026 lbs. This makes, approximately, the following ratio per cubic yard: Nitrate of soda, 2 lbs.; dissolved bone black, 2 lbs.; muriate of potash, 1¼ lbs.

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Notes from a Carolina Garden.

Usually we have an abundance of well headed lettuce by this date (Nov. 25). But the very dry fall, and the lack of means for irrigation prevented our getting a supply of early plants. The lettuce in the cold frames is turning in for heading, and from present appearances we believe that the Wonderful is going to beat the Big Boston a good ways. We have never tried this lettuce in the frames before, and only used it as a spring crop. But the scarcity of the Big Boston caused me to fill one frame with the Wonderful, and it is really wonderful how it has grown. Our market demands a big head. But for this fact we would use the California Cream Butter lettuce, which makes less spread of outside leaves and looks smaller, while it is really as large as the Big Boston. For home use we grow Grand Rapids and Maule's Improved Hanson. Our people who buy lettuce have not yet learned that the curly Grand Rapids is of finer quality than the cabbage lettuces. But of all the heading sorts the Hanson is the most brittle and delicate to my taste. But where one grows things to sell he must grow what the market wants and not waste his time in trying to educate people's tastes.

The early advent of cold weather has warned us that a hard winter may be at hand, and we are today banking leaves about the figs and will put pine boughs about them. We are now in the midst of our second freeze, while in other years we seldom have a killing frost until about this time. Now even the tops of the radishes have been nipped and the turnip leaves show signs of Jack Frost's work. In about six weeks we will be getting our first planting of early peas in the ground. We always plant a few extra earlies, though they are not of as fine quality as the wrinkled peas, as they can be planted earlier without risk of rotting in the ground. The wrinkled peas we plant in February. The experience of the past season has taught us some things. One of these is not to waste room and labor again with the pea known as Prosperity or Gradus. It takes too many plants of these to make a pod. Another thing we have learned is that Maule's Earliest tomato is the earliest and most productive tomato we have tried and far ahead of Earliana. We have also noted that the bush lima beans need very heavy manuring. They do not, like most legumes, have any nitrogen-fixing nodules, and hence they need heavy applications of manure. In fact we have been more than ever impressed with the fact that heavy manuring is good for most of our vegetable crops, and that failure comes more frequently from lack of ready plant food than from any excess of it. In garden soils which have been heavily manured with stable manure for years, Irish potatoes often fail though making immense vines, and people say that the soil has gotten too rich for potatoes. It has simply gotten one-sided, has an excess of nitrogen and all that it needs to make heavy crops is an addition of phosphoric acid and potash, for plants as well as animals require a balanced ration.

GIVE YOUR STOMACH A NICE VACATION.

Don't Do it by Starving it Either—Let a Substitute Do the Work.

The old adage, "All work and no play makes Jack a dull boy," applies just as well to the stomach, one of the most important organs of the human system, as it does to the man himself.

If your stomach is worn out and rebels against being further taxed beyond its limit, the only sensible thing you can do is to give it a rest. Employ a substitute for a short time and see if it will not more than repay you in results.

Stuart's Dyspepsia Tablets are a willing and most efficient substitute. They themselves digest every bit of food in the stomach in just the same way that the stomach itself would, were it well. They contain all the essential elements that the gastric juice and other digestive fluids of the stomach contain and actually act just the same and do just the same work as the natural fluids would do, were the stomach well and sound. They, therefore, relieve the stomach, just as one workman relieves another, and permit it to rest and recuperate and regain its normal health and strength.

This "vacation" idea was suggested by the letter of a prominent lawyer in Chicago. Read what he says: "I was engaged in the most momentous undertaking of my life in bringing about the coalition of certain great interests that meant much to me as well as my clients. It was not the work of days, but of months. I was working night and day almost, when at a very critical time my stomach went clear back on me. The undue mental strain brought it about and hurried up what would have happened later on.

"What I ate I had to literally force down and that was a source of misery as I had a sour stomach much of the time. My head ached, I was sluggish and began to lose my ambition to carry out my undertaking. It looked pretty gloomy for me and I confided my plight to one of my clients. He had been cured by Stuart's Dyspepsia Tablets and at once went down to a drug store and brought a box up to the office.

"I had not taken a quarter of that box before I found that they would do all the work my stomach ever did; and as a rest or vacation was out of the question for me, I determined to give my stomach a vacation. I kept right on taking the tablets and braced up and went ahead with my work with renewed vigor, ate just as much as I ever did and carried out that undertaking to a successful issue. I feel that I have Stuart's Dyspepsia Tablets to thank for saving me the handsomest fee I ever received as well as my reputation and last but not least my stomach."

Stuart's Dyspepsia Tablets are for sale by all druggists at 50 cts. a box.

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JOHN A SALZER SEED CO., La Crosse, Wis.

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

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Field Force Pump Co. 11th St. Elmira, N.Y.

Ayer's Cherry Pectoral. A doctor's medicine. Weak throats, weak lungs. J. C. Ayer Co., Lowell, Mass.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Mulching Fruit Trees.

Wherever the ground freezes severely in winter, the frost penetrating to the roots of freshly planted trees, it is a profitable task to place manure, leaves or even soil about the base of the trees to keep out frost. Manure is best, as it fertilizes as well as protects. There is no doubt of the benefits following the keeping out of the frost. There is activity of the roots; the healing of cut off parts goes on, and the demand of the tree for a supply of sap to make good what it is losing all winter, the tree is able to meet. As said, manure is the best material; after this there is need to try for forest leaves, as these make food as they decay. After this common soil is as good as anything. Pile enough about the tree that you feel sure the frost will not get below it deep enough to reach the roots. There is another advantage in using soil. It holds the trees firmly in place, preventing the swaying about which causes the death of so many newly planted trees.

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Horticultural Queries.

Nursery Query.—Are there any Continental Nurseries, Rochester, N. Y., owned by Brown Bros. Co.? They are delivering fruit trees which look as if they were in the sun for a week or two. I cannot find where they advertise in The Practical Farmer.
Philipsburg, Pa. JOHN L. ANTES.

Yes, the firm of Brown Bros., Rochester, is an old one, and it has a first-class reputation. Sometimes agents are not careful, and they may have permitted the trees to lie around, as you say; but the firm itself is, certainly, well-known and holds a good reputation. Sometimes when trees have become dried out they may be fully restored by burying them completely under ground for a few days. The wood absorbs moisture and the trees are brought back to their original condition.

Strawberries for Market.—What are the best varieties of strawberries to purchase for spring planting? Please name the best varieties for raising berries for market; that is, the ones that give the largest yield, the best flavored, largest size, etc.
Barracksville, W.Va. E. R. I. FREELAND.

One of the most difficult problems is to name the best fruits for special localities, climate, soil and other matters having to be considered. What would be just the thing for us might be of no use whatever on your farm. You should try a few plants of several kinds, making up your mind which are the better sorts after a trial, unless you know of good ones your neighbors have. These sorts are to be relied on in almost all situations: Clyde, Wm. Belt, Brandywine, Bubach, Haverland, Michel's Early, Gandy and McKinley.

Answer to Correspondent. — A correspondent, S. H. Linton kindly calls attention to the fact that in answering Mr. Eller's inquiry as to the difference between plum trees on plum roots and peach roots an answer was given the reverse of what the question called for, as it related to peach on plum. As to plum on peach, it is doubtful if there would be any gain equal to the loss. The peach tree bears fruit in less time than the plum, and this would operate to make the plum bear earlier when worked on it. The peach being shorter-lived than the plum would make the duration of usefulness a shorter one when so worked. Plums so worked could be planted deep, when they would make root from the plum in time, becoming, essentially, on plum stock, just as is done with dwarf pears at times, but hardly anyone at the present time thinks it worth while having plum on peach.

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Horticultural Notes.

Japanese Cedars. — Retinisporas, Japanese cedars, as many call them, are excellent evergreens for both Northern and Southern folks to plant. They are compact growing and attain a good size without being as large growing as many pines are.

We will send The Practical Farmer and the leading ladies' magazine, Woman's Home Companion, both one year, and The Practical Farmer Almanac for 1904, all for only $1.50.

Filberts produce male and female flowers separately, though on the same bush. Sometimes one comes before the other, in which case no fruit sets. It is found the best success follows the planting of them on northern slopes, both sexes of flowers being then more apt to appear together.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Fixing the Poultry House. — From the beginning of the cold season until spring, greater attention must be paid to the poultry house than during the summer months, although it is true that the red spider gives less trouble during the cold season than in summer. But as the fowls stay inside the house longer, more filth will accumulate, and must be removed. Give the house a thorough cleaning at least once a week, scatter dry earth, road dust or superphosphate under the perches, and keep the floor of the building well covered with dry earth, muck, road dust, etc., and finally dead leaves or other litter for the fowls to scratch in. Direct draught upon the roosting places should be scrupulously avoided. Fowls in health can stand cold weather, but are sensitive to cold draughts. The house in our Northern localities should have double walls, and can hardly be too well secured against the entrance of cold air.

Preparing Poultry for the Fairs.—Of course, when we attempt to carry off prizes at the fairs for poultry exhibits, we must aim to have our fowls at that time "look their prettiest." An expert gives the following pointers in Poultry Advocate: "To clean a bird that has rubbed paint on its plumage, saturate well the feathers with benzine and rub the paint spots. Soak the feet and legs in warm soapsuds and if an old bird, scrub with a tooth brush. Dry thoroughly and rub in with a piece of flannel a small quantity of sweet oil that has had annatto mixed with it. Nothing will fill up chickens so quickly, putting them in show condition, as good yellow corn, scalded milk and raw lean beef. The beef and corn do the work, while the scalded milk enables one to feed of these two foods all the birds will eat for ten days and not suffer from a looseness of the bowels, which would surely follow the continued use of the corn and beef without it. Cockerels, more especially of the Mediterranean class, rarely make a satisfactory growth when allowed to chase and worry a lot of hens or grown pullets. Hence, in order to attain best development, besides allowing the hens peace and quiet, cockerels should be early separated from the pullets and hens. A cockerel that has grown up without the company of any females is greatly improved as a show bird if he is given a small lot of hens to lord it over for a few weeks before the show. A pullet in free range may be slow in starting to lay and hence have a small comb and lack that perfection of shape, the charm of a pullet just beginning to lay. The pullet in free range that is slow in starting to lay is all right. She is making frame and flesh. But she may be wanted for a certain show. Then coop her and feed her liberally on things she likes and she will quickly get into laying shape."

Frozen Combs.—Sometimes we have seen the advice given to cut the combs off large-combed breeds as a prevention or cure for being frost-bitten. This advice is like telling a man to cut his nose off to save it from being frost-bitten. We don't like to see Leghorns and similar breeds with combs cut off, no more than to see a noseless person. The Ploughman says: "We do not believe the length of comb makes any difference. If the bird is in good health, and the blood circulates well, we believe that the tip of the comb is as safe at two inches from the head as at a quarter of an inch. We have never noticed long noses to be more easily frost-bitten than short ones, or that a man's toes were any colder when he was six feet tall than when he was but five feet. But the house that is too cold to winter a Leghorn bird in from fear of the comb freezing is not fit to keep any fowls in, as they cannot produce eggs in so cold a place, and they eat more grain to keep up the natural heat of the body." Out doors, of course, is no place to keep fowls when the weather is cold, cold enough to freeze their combs.

◆

17,000 subscriptions expire with our December 26th number and will be cut off the list at that date if not renewed. Renewal subscriptions must be sent before that date if you want the January 2nd number.

We will send The Practical Farmer and Poultry Success, both for one year, and The Practical Farmer Almanac for 1904, all for only $1.15.

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Queries Answered.

Roup.—D. H. Morris, Waskom, Tex., writes: "My chickens are dying from sore heads. It seems to be more severe among broilers than the older chicks. Their combs and around their eyes become sore, swell and have scabs on them. After the disease runs a while they go blind and finally die. Please tell causes and a cure." This seems to be a bad case of roup. It may be caused by bad ventilation, filthy quarters, unclean water vessels, or infection from some source, as bringing an infected fowl from elsewhere on the place. Put into the water dish bromide of potassium, two grains to each fowl, for three or four days. You may try to cure the sick fowls, which should be separated from the balance of the flock, as follows: Hold the fowl so that it cannot swallow, and fill the throat with kerosene, holding long enough to have the oil thoroughly saturate the throat; then allow the oil to run out of the mouth and wash the nostrils out; also inject a few drops into each nasal passage. In its earlier stages, the disease is said to be checked thus as if by magic. This recipe is from Profits in Poultry.

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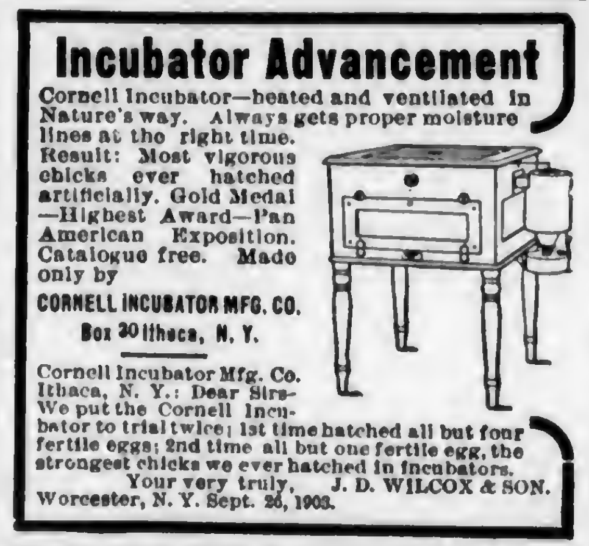

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PROF. W. F. MASSEY, Editor.

Philadelphia, December 12, 1903

A SUGGESTION FROM THE EDITOR FOR CHRISTMAS. You can make no more agreeable present to six of your friends than the following: Send The Farmer Company three dollars ($3.00) which will pay for your own subscription to The Practical Farmer for 1904 and will send The Practical Farmer for one year to six of your friends, thus reminding them every week for a whole year of a kindness that we venture to say they will appreciate for the balance of their natural lives if they are in the farming business for profit.

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WE could never see the advantage the nurserymen claim in the so-called "heeling in" of nursery stock in the fall for spring planting. Of course, where fall planting is not advisable on account of the severity of the winter climate, and the spring planting season is short, there is an advantage in having the trees at hand ready for the first opportunity to plant in the spring. But in such cases the heeling in should be of a very thorough character and in a very sheltered place, even in a cold cellar. But wherever it is practicable to plant in the fall, and that means everywhere south of the Ohio and Potomac Rivers, there is no advantage whatever in heeling in. The ground can be gotten into better order in the fall than in the spring, and where the soil does not freeze deeply it is always better to get the trees planted permanently in the fall.

The Cost of Producing Eggs.

Poultry enthusiasts often tell us that the greatest profit from keeping hens is from the eggs produced. Bulletin No. 212 of the Cornell Station throws considerable light on this subject. A series of experiments were made by co-operating parties, eleven in number. Each poultryman was to use his own methods of feeding and caring for the fowls. They were simply asked to produce, by their own methods, the greatest possible number of eggs at the lowest possible cost, and to report their work weekly. The reports showed a very wide range in the cost of production, which varied practically from six cents to six dollars per dozen, counting only the cost of food consumed, and making no allowance that we can discover, for the cost of attendance and wear and tear of buildings and use of land. The time of the production was four months from the first of December to last of March, the period when the eggs commanded the highest prices. The winter of 1901 and 1902 was remarkable for the high price of feed and also for the accompanying high prices which the eggs brought. In 1902-3 the price of eggs was much lower. In 1901-2 the sales from an average of 100 hens varied from $62.10 above the cost of feed to $14.46 below the cost of feed, and in 1902-3 from $46.45 above cost of feed to $22.40 below cost of feed. The average cost of feeding 100 hens was $35.33 and the average value of the product for the 17 weeks was $16.13 above the cost of food. To us, not being a poultry man, it seems that a man who cares for 100 hens all winter for $16.13 above the cost of feed, has a very small pay for his time and labor, and if this is the average result we have no ambition to enter into the egg business. We know plenty of other things that we can do with less labor and expense that will pay better during the same time.

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SECRETARY WILSON, in detailing what the Department of Agriculture has accomplished, shows that they have certainly accomplished a great deal. But we cannot agree with him when he says, "Our soil analyses discovered in Connecticut ground suitable for raising Sumatra tobacco. These scientists are now trying to discover where we can raise the Cuban filler tobacco, and we have found two places." The soil analyses never had anything to do with the tobacco growing in Connecticut. It had been known for generations that fine wrapper tobacco could be grown in Connecticut, and all that was needed was experiments under cloth to demonstrate the practicability of growing finer wrappers of the Sumatra type. There are thousands of acres all down the coast from Connecticut to Florida where the same thing can be done, though the soil is unlike that in Connecticut. Then it has been long known that the Cuban type of tobacco has been grown successfully in certain parts of Texas, and if this had not been discovered, the scientists of the Department would never have found it out or gone there. They simply want to claim the credit for what others have found out without their aid. Soil analysis will never determine the adaptability of any soil to certain crops. The soil surveyors of the Department have simply mapped out areas of soils where they found people were succeeding with certain crops and they then designated them early truck lands, tobacco lands, etc., because they found that men had been using them successfully for these crops. But the soil surveys, nor the soil analyses ever had anything to do with it except to state what they saw. That in many lines the Department of Agriculture under its efficient head is accomplishing much for the farming interests of the country is true, but in many lines they have simply aided in the development that has already started. The Secretary says, "We are raising tea successfully in South Carolina." But Dr. Shepherd was doing this at his own expense before the scientists of the Department ever took a hand in it, and he should have the credit, rather than the Department. In fact, in all these lines of practical culture the Department has simply followed up the clues which practical cultivators started. They have "discovered" very little.

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Poisons for Food.

The Country Gentleman some time since stated that no dairy paper would dare to publish what we did in regard to the use of poisonous coal tar color for butter. The same paper now prints the defence from a dairy paper, which says that having once investigated the matter and found that the colors are harmless in the quantities used, they could see no need for condemning them any more than they would condemn the use of vanilla extracts because a child was killed by drinking a bottleful. We agree with the Country Gentleman that the defence is "an insult to the intelligence of readers. A teaspoonful of certain kinds of butter color would be a very dangerous if not certainly fatal dose for the strongest adult. Butter is eaten habitually, constantly, at intervals of only a few hours all through life, by ninety-nine people out of a hundred—what comparison is there between using it as a medium to dose the system with virulent poison, and the occasional flavoring of something with perfectly harmless extract of vanilla, even supposing that a pint of the latter might not agree with a baby?" When we get that National pure food law one of the first things that should be done should be the condemnation of the coal tar colors in food, for the butter colors are not the only ones that are used, for nearly every sample of tomato catsup on the market is colored with a coal tar color, and in numerous so-called preserved fruit and jelly the same poisons are used, as well as salicylic acid as a preservative. In a bulletin before us, out of over forty samples of catsup examined all but two were colored with the poison coal tar color, and all of them had formaldehyde, salicylic acid or benzoic acid in them as preservatives, and these poisonous mixtures are on the market for human food. There are harmless butter colors on the market, but the coal tar colors are not harmless.

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Which are the Thieves?

Referring to the circular from the Kansas Board of Agriculture that has been generally published in the farm papers in regard to the thieves among cows, or the cows that are robbing the feed barn and not paying, the Rural New Yorker says that it is not the cow that does the thieving half as much as the man who feeds her. There is a great deal of truth in what our contemporary says. There is more loss among dairymen from poor feeding and the feeding of unbalanced rations than there is from cows that do not return a good supply of milk from their feed. We once took charge of the agricultural interests of a large school, where we found thirty cows in the stable, and most of them fairly good ones. The Superintendent asked us to see if something could not be done to increase the supply of milk for the herd was supplying then about nine gallons a day. This was such a startling statement that we at once started to investigate. What the cows had to eat was naturally the first question, and to our utter amazement we found that the cows had been fed all winter only on the refuse hay that the mules refused to consume. Examining this we found that it consisted largely of briars and other woody refuse, and the wonder then was that the cows had lived through the winter, and not that they were giving little milk. Hay had been scarce, and the 1200-acre farm had not been supplying enough, so the manager thought to economize with the purchased hay by feeding it in this way. It was then spring time, and the cows soon improved on the grass, and by another winter we had the silos, that had been built but never used, filled with good ensilage, and we had clover hay and pea vines, and let the mules have the timothy. Then with the aid of some cotton seed meal and bran with abundance of good forage, that herd of cows was soon giving an abundance of milk, which we continually increased by weeding out the poor cows and raising better ones till there was no herd that made a better average, in our observation. The best cows cannot do well with poor feeding, and the worst ones will increase in flow with good food. Get the feed all right and then you will be able to detect any thieves that may be among the cows.

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The P. F. Special Cotton Report.

New York, Nov. 30, 1903.

So far as it is possible for returns at this date to approximate the final yield, the crop is shown to be in the neighborhood of 10,370,300 bales, on 28,503,500 acres, or equivalent to an average yield per acre of 182 pounds. These figures compare with the estimate of last year's crop at this time of 11,100,000 bales on an area of 27,920,600 acres, or an average yield per acre of 198 pounds. The average quality of the staple is returned as 95 per cent. against 88 per cent., 1902; 89 per cent., 1901, and 96 per cent. in 1900. The approximate amount of picking still to be done is placed at 10 per cent. The acreage "thrown out" or abandoned, during the planting and growing season over the eleven States, was in the neighborhood of 3 per cent. The above estimate of 10,370,300 bales has been submitted to you only after careful work and study of the situation from early spring up to the present time, during which conditions surrounding the crop were favorable only a small part of the time—the last two weeks in July and three weeks in August. Shedding, rust, severe drought, premature opening of bolls, and damage by insects gave no special cause for alarm until about the second week in September, when the crop in its stage of growth was from three to four weeks late over the entire belt, and required August weather for its proper development. Instead however, temperatures ranged low during the entire month, causing a cessation of growth. In April there were heavy, cold rains; which retarded preparations for planting; in May, complaints of seed rotting in the ground and extensive re-planting, which was carried on until early in June; in June, slow growth, poor stands, cool nights and heavy rains; in July, warmer weather and cultivation improved conditions; in August, conditions were still improving—but very little shedding, rust, rains, etc., were complained of; first two weeks of September a marked decline took place, which was caused mainly by extreme heat and drought, causing premature opening of the bolls, and shedding. The last two weeks of this month a further deterioration was caused by dry, cool weather, shedding, rust and drought. The amount picked was placed at 22.2 per cent. against 43 per cent. in 1902. Indications for an average top crop were discouraging. In October (first two weeks) a natural decline resulted from the severe drought of September. During the last two weeks of this month the weather was favorable to picking and housing the crop. Frosts occurred on the 16th, 17th and 18th in North Carolina, South Carolina, Alabama, Mississippi, Louisiana, Tennessee and the Territories, which blighted undeveloped bolls. The crop was still reported to be late with prospects for a very small top crop. During the month of November the weather was favorable to picking and housing the crop. Much cotton was killed by frost; the top crop in most instances will not mature; immature bolls were killed by heavy frosts. The following statement shows by States the approximate acreage, yield per acre, production of cotton for 1903, and the average quality of the staple:

States	Acreage 1903	Av. lbs. per a.	No. of bales	Av. qual.
Virginia	52,700	142	15,100	95
N. Carolina	1,573,100	185	582,100	98
S. Carolina	2,287,400	212	970,000	95
Georgia	3,673,500	185	1,359,200	95
Florida	285,000	100	57,000	90
Alabama	3,220,400	170	1,094,900	94
Mississippi	3,393,800	187	1,272,600	98
Louisiana	1,684,300	253	852,300	97
Texas	7,091,200	156	2,493,300	94
Arkansas	2,078,800	200	831,500	95
Tennessee	1,284,300	132	330,100	90
Territories	979,000	258	503,200	90
Total	28,503,500	182	10,370,300	95

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Some of our friends misunderstood our proposition to renew their subscription for 1904 and send The Practical Farmer Almanac for 1904, provided the dollar was sent by Dec. 1st, and let the opportunity pass without taking advantage of it. We don't want to disappoint anybody, and therefore extend the offer to Christmas Day. Anyone mailing us one dollar for their renewal subscription on or before midnight of Dec. 25th will have their subscription extended one year, and receive The Practical Farmer Almanac for 1904 free.

CONTENTS

AGRICULTURAL. — The Hired Help Problem.—"What Would Terry Do?"—Take the Old Farm, Boys, and Make it Blossom Like the Rose.—When to Spread Manure in Vermont.—Harrows.—Lead Pipes and Filters for Cisterns. 369
Tall Meadow Oats Grass. 370
QUERIES.—Stock Beets.—Sundry Queries. 370
Fertilizers for Irish Potatoes.—A Little Pennsylvania Farm.—Improving Land.—Sweet Potatoes.—Seed Corn. 371
LIVE STOCK AND DAIRY.—Factors in Swine Breeding; Part II.—Butter Making on the Average Farm. 372
VETERINARY.—Indigestion. — Chronic Laryngitis. — Carpites. — Fits.—Sore. 373
GARDEN.—Potato Pointers from Germany.—Talks on Timely Topics.—Summer Planting.—Soil and Manures for Lettuce Under Glass.—Notes from a Carolina Garden. 374
HORTICULTURAL. — Mulching Fruit Trees. — Horticultural Queries.—Nursery Query.—Strawberries for Market.—Answer to Correspondent.—Horticultural Notes. 375
POULTRY. — Seasonable Suggestions.—Fixing the Poultry House.—Preparing Poultry for the Fairs.—Frozen Combs.—Queries Answered.—Roup. 375
EDITORIAL.—The Cost of Producing Eggs.—Poisons for Food.—Which are the Thieves. 376
THE P. F. SPECIAL COTTON REPORT. 376
COMMERCIAL. 377
HOME CIRCLE. — The Wearing of Mourning.—Our Book Table. 378
Going to School.—Evening Games in the Family Circle.—A Day Off.—In the Kitchen.—Correspondence. 379
OUR EXPERIENCE POOL.—Topic No. 602.—Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How? 380
FARM IMPLEMENT ANNEX.—Sub-Surface Packer.—Where are My Tools?—The Self Rake in Buckwheat.—The Old Pin Sled.—Protection for Wagon Thimbles.—About Plows.—Improved Quilting Frame. — The Portable Forge. — A Good Corn Planter.—Cheap Garden Tool. 381
MISTAKES, FAILURES AND SUCCESSES.—Feeding Calves. — Farm Accounts.—Picking Ducks.—Raising Chicks in Brooders.—Chicken Feeding.—These Hogs Ate Artichokes.—Onion Sets from Seed. 382
POSTAL CARD CORRESPONDENCE. 383

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COMMERCIAL

PHILADELPHIA MARKET REVIEW.

December 5, 1903.

Wheat was firm under good speculative buying in the West, and prices were higher. Corn was quiet but firm. The bullish speculation in cotton continues and prices have taken a sharp upward turn. Both here and in New York the traders were overwhelmed by the adverse Government and special reports. The net advance for the week was 115 points. Supplies of live fowls and chickens were liberal and prices were weak. Dressed poultry was dull and prices were barely steady under liberal offerings, the bulk of which was of unattractive stock. Fine creamery butter was in light supply and the demand promptly cleaned up the offerings. The market was dull and unsettled on lower grades. Eggs have declined in price since our last report, but the snow storm steadied the market. Buyers of cheese are operating only in small lots. Green are operating only in small lots.

WHEAT.—

No. 2, red, spot and Dec.	86½	@	87
No. 2, Penna. and Del.	87½	@	88
No. 3, red	81½	@	82

CORN.—

No. 2, mixed	48¼	@	48¾
No. 2, yellow	53	@	53½
No. 3	46¼	@	46¾

OATS.—

No. 2, white natural	41	@	41½
No. 2, white clipped	42		

LIVE POULTRY.—

Fowls, hens, per lb.	10½	@	11½
Roosters, per lb.	8		
Spring chickens, per lb.	10½	@	11½
Ducks, per lb.	13		
Geese, per lb.	12		
Turkeys, per lb.	12	@	13

DRESSED POULTRY.—

FRESH KILLED.

Fowls, choice, per lb.	13½		
Chickens, nearby, per lb.	15	@	15½
Western, d. p., fancy, lb.	14½	@	15
Spring turkeys, fancy, lb.	18		
West. spring turkeys, per lb.	15	@	18
West. spring ducks, per lb.	13	@	15

BUTTER.—

West. creamery 1sts to extra	23	@	25½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	24	@	27
Prints, Western	21	@	25½
Imitation creamery	17	@	20

EGGS.—

QUOTATIONS—M, mark; L, loss off.

Nearby 1sts, ret'bl crates, L	31		
Western 1sts, free cases, L	31		
So. West., 1sts, free cases, L	30	@	31
So. choice, free cases, L	28	@	29
Refrigerator, firsts	24	@	25

Recrated eggs 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c.—

Choice and fancy	11½	@	11¾
Fair to good	10¾	@	11¼
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	13		

GREEN FRUITS.—

Oranges, Fla., bright, box	2.00	@	2.50
Oranges, Fla., russets, box	1.75	@	2.25
Grape Fruit, per box	3.00	@	4.50
Cranberries—			
Cape Cod, large late, bbl.	7.00	@	8.00
Cape Cod, early Bl., bbl.	6.50	@	7.00
Cape Cod, early Bl., crate	1.75	@	2.00
Jersey, per crate	1.50	@	2.00

APPLES AND PEARS.—

Apples—			
N. Y. Snow, per bbl.	3.00	@	3.50
Kings, per bbl.	3.00	@	4.00
Pippins, per bbl.	1.75	@	2.50
Greenings, per bbl.	2.00	@	2.50
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl.	2.25	@	2.75
Pears, Kiefer, per bbl.	1.50	@	2.50

POTATOES.—

White, Pa., choice, per bu.	75	@	78
White, N. Y., choice, per bu.	72	@	75
Fair to good	65	@	70
Sweets, Jersey, prime bas.	30	@	50
do Jersey, 2ds, per basket	12	@	15

VEGETABLES.—

Onions, Western, per bu.	65	@	70
Cabbage, Danish, per ton	28.00	@	30.00
Cabbage, domestic, per ton	15.00	@	22.00
Cauliflower, L. I., per bbl.	2.00	@	2.75
Cucumbers, Fla., per bu.	2.00	@	3.00
Eggplants, Fla., ½-bbl. crate	2.00	@	2.25
String beans, 1-3-bbl. bas.	3.00	@	4.00
Tomatoes, Fla., per case	1.50	@	2.50
Lettuce, N. C., ½-bbl. bas.	1.25	@	2.25

BEANS AND PEAS.—

Beans, mar., H. P., 1903, bu.	2.70	@	2.85
do mediums, H.P., 1903	2.20		
Pea beans, H. P., 1903, bu.	1.95	@	2.20
Imported pea beans, per bu.	1.85	@	1.90

COTTON.—

Cotton, per 100 lbs. 12.45

FEED.—

Bran, bulk, winter, per ton	18.50	@	19.00
Bran, sacked spring	18.50	@	19.00

HAY AND STRAW.—

Timothy, No. 1, large	16.00	@	16.50
Clover	10.00	@	12.50
Rye straw	19.50	@	21.00
Oat straw	8.50	@	10.00
Wheat straw	9.50	@	10.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade firmer.

Best steers	5	@	5¼
Good steers	4¼	@	4¾
Medium steers	3¾	@	4
Common steers	3¼	@	3½

Veal calves active.

Extra calves	8	@	9
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

Hogs active.

Fat hogs, Pa., Del. & Md.	5	@	6¼
Fat hogs, Western	6½	@	6¾

Sheep and lambs steady.

Sheep, extra	4	@	4½
Sheep, good	3¼	@	3¾
Sheep, medium	2¾	@	3
Sheep, common	1¾	@	2½
Lambs	4	@	5¾

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NEW YORK MARKET REVIEW.

December 5, 1903.

Wheat was strong and higher. Spot corn closed strong. There was a good demand for oats from local jobbers. Hay and straw are in good demand for top grades. Fancy grades of butter are firm. The cheese market is dull, especially on late made goods. The late reduction in the price of eggs caused many shippers to withdraw their stock from the market, which gave a firmer tone to it. There was a good demand for live roosters and fowls. Live chickens were in poor demand. Live poultry is dull, the market being glutted with supplies of nearly all grades. The market for potatoes is firm. Cabbages are scarce and prices are higher. Poor apples are in oversupply. Cranberries are weak. Interest centred in cotton, which shot up like a rocket under the influence of adverse reports.

WHEAT.—

No. 2, red	89⅞	@	90⅞
Northern Duluth	93⅛		

CORN.—

No. 2, yellow	53		
No. 2, white	51		
No. 2, mixed	50⅝		

OATS.—

No. 2	42½		
Standard white	42		
No. 2, mixed	40¾		

HAY AND STRAW.—

Timothy, new, per cwt.	95		
Timothy, No. 1	87½	@	92½
Clover	57½	@	65
Straw, long rye, per cwt.	1.05	@	1.20

HOPS.—

New York State, 1903, lb.	24	@	32
Pacific Coast, 1903, per lb.	18	@	27
German, 1903, per lb.	55	@	65

BUTTER.—

Extra creamery	25		
West. extra factory	15		
State dairy	15	@	21
Packing stock	12½	@	14½
Imitation	15	@	18

CHEESE.—

State, f. c., small, fancy	12		
Good to prime	10¼	@	11½
Large colored, fancy	12		
Light skims	7½	@	9
Full skims	1½	@	2

EGGS.—

QUOTATIONS AT MARK.

Nearby fc'y, selected white	38	@	40
State & Pa., fancy	31		
State & Pa., seconds	27	@	29
Western extras	31		
Refrigerator	20	@	26

LIVE POULTRY.—

Chickens, per lb.	10½		
Fowls, per lb.	11½		
Roosters, per lb.	7½		
Turkeys, per lb.	12		
Ducks, West., per pair	80	@	90
Geese, West., per pair	1.50	@	1.62

DRESSED POULTRY.—

Turkeys, fancy, d. p., lb.	18	@	19
Scalded, per lb.	15	@	16
Old, mixed, per lb.	16		
Broilers—			
Phila., fancy, large, lb.	21	@	23
Western, d. p., per lb.	16		
Fowls—			
Ohio & Mich., scalded, lb.	12½		
West., d. p., av. best, lb.	12½		
Chickens, Phila., fancy, lb.	17	@	18
State and Pa., fancy, lb.	14		
State and Pa., poor, lb.	10	@	11
Spring ducks, nearby, lb.	16	@	17
Western, per lb.	13	@	14
Inferior, per lb.	10	@	12
Spring geese, Eastern, lb.	17	@	18
Squabs, per doz.	1.75	@	3.00

APPLES AND PEARS.—

Apples—			
Ben Davis, per bbl.	1.50	@	2.25
Spitzenberg, per bbl.	2.00	@	4.00
King, per bbl.	2.50	@	3.50
Greening, per bbl.	1.50	@	2.75
Tallman sweet, per bbl.	1.50	@	2.00
York Imperial, per bbl.	2.00	@	2.75
Hubbardston, per bbl.	1.50	@	2.00
Pears—			
Kiefer, per bbl.	1.00	@	2.50
Miscellaneous, per bbl.	1.00	@	1.25

GREEN FRUIT.—

Grapes—			
N. Y., Niagara, 4-lb. bas.	12	@	18
N. Y., Concord, 4-lb. bas.	12	@	18
N. Y., Catawba, 4-lb. bas.	14	@	16
Wine grapes, black, ton	50.00	@	55.00
Cranberries—			
Cape Cod, bbl.	6.50	@	8.50
Cape Cod, crate	1.75	@	2.25
New Jersey, per bbl.	6.00	@	6.25
New Jersey, per crate	1.70	@	2.00

POTATOES.—

L. I., per bbl.	2.12	@	2.37
Jersey, per bbl.	1.87	@	2.25
Maine, per sack	2.10	@	2.25
So. 2nd crop, per bbl.	1.50	@	2.00
Sweet potatoes, Jer., per bbl.	1.50	@	3.25
Southern, per bbl.	50	@	1.00

VEGETABLES.—

Brussels sprouts, per qt.	6	@	12
Carrots, per bbl.	75	@	1.25
Cabbage, domestic, per ton	14.00	@	18.00
Cabbage, Danish, per ton	18.00	@	25.00
Tomatoes, Fla., per carrier	1.50	@	2.50
Tomatoes, Cal., flat cases	1.25	@	1.75
String beans, Fla., per bas.	1.00	@	4.50
Squash, Hubbard, per bbl.	1.00	@	1.25
Squash, Fla., white, per bas.	1.00	@	1.75
Cucumbers, Fla., per bas.	1.00	@	3.00
Cauliflower, per bbl.	75	@	5.00
Celery, per doz.	10	@	45
Eggplants, per box	2.00	@	4.00
Lettuce, Norfolk, per basket	50	@	1.50
Lettuce, New Orleans, bbl.	3.00	@	5.00
Onions, white, per bbl.	2.00	@	5.50
Red, per 150 lbs.	1.50	@	2.00
Yellow, per bbl.	1.25	@	2.00
Peas, Florida, per basket	1.00	@	4.50
Pumpkins, per bbl.	75	@	1.25
Spinach, per bbl.	3.00	@	4.00
Turnips, per bbl.	75	@	1.00
Peppers, Fla., per carrier	1.50	@	2.50

BEANS AND PEAS.—

Beans—			
Marrow, 1903, choice, bu.	2.80		
Medium, 1903, choice, bu.	2.15		
Pea, 1903, choice, per bu.	2.12½		
Red Kidney, 1903, per bu.	2.90	@	2.95
Lima, California	2.25		
Green Peas—			
Scotch, 1903, bags, per bu.	1.20		

COTTON.—

Cotton, Dec., per 100 lbs. ...12.35

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29

UNWASHED (light and bright.)

Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22

UNWASHED (dark colored.)

Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19

COMBING AND DELAINE FLEECES.

Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Article.

The Wearing of Mourning.

LEOTA FAIRFIELD WILLIAMS.

Among all nations and throughout all ages, the desire to express in some way the sorrow and grief felt for the death of our loved ones, has been universal. This is natural and, perhaps, right, and yet I think there is very much to criticise in the way it is done. The custom of wearing mourning by the women of our land is nothing but a relic of barbarism, and should be relegated to that time when hired mourners, with torn garments and disheveled hair, were paid to attend funerals, uttering dismal, soul-harrowing cries. Why should we women clothe ourselves in black when a member of our family is called to enter the "pearly gates?"

Is it for the sake of the loved one who could not possibly be pleased or benefited by these external symbols of woe? Or is it to gain the sympathy of the world, and to let them see that we honor the memory of our dead? Or is it because it is custom, and Dame Fashion so decrees, and we must obey her laws? This latter, I think, is more the reason than the others, although, perhaps, each one has some influence over different natures.

After we have watched for days and nights the sufferings of one dear to us, and in keenest anguish seen the pulse beats grow fainter and fainter, until at last there are no more, and we close the eyes and bury forever from our sight this being whose life meant so much to us—ah! then is our dark hour. We are encompassed about with blackness, and we feel that these shadows can never be lifted, but will throw their gloom far out, to the very end of our lives. It seems to me both pitiful and cruel that we should, at so sad a time, when I am sure very few of us care anything for apparel, be called upon to consider the "etiquette of mourning." Are we such slaves to fashion that she must be our first thought, even as we emerge from the "valley of the shadow of death?" Perhaps we are too heartbroken to think or care, and we simply submit to a custom that seeks to intensify "the blackness of darkness" by clothing us in dismal garments, overshadowed by a long, sombre crepe veil, whose swaying and rustling always makes me think of that ominous black plumed raven that cast a gloom over the soul of Poe. These dreary mourning garments have much influence over our spirits. A sad-faced mother dressed in black robes, is a doleful sight for little children, and all her family and friends feel the melancholy of such a presence. It is like a succession of dull, cloudy, rainy days—so depressing, so full of gloom, that the heart cries out for sunshine—God's blessed sunshine.

In this day of enlightened women, we believe that to be brave and courageous and high-souled we must meet whatever comes to us in life as cheerily, and with as little shrinking as possible. We must be brave for our own good, and for the sake of those we love. We must keep our hearts whole and healthy, and not let them bleed or break if we can help it. We should not foster grief by wearing woeful habiliments, but rather make no change in our apparel. Let us still don the dainty muslins and pink ribbons, or whatever we may have, and the money we would spend for crepe and black dresses can be given to buy flannel and shoes for orphan children. Why not give it in the name of that dear lost one? Would not this be a far better way to honor the memory of our dead? Instead of a costly tombstone, why not build a church or schoolhouse? When I die I hope my husband will not get for me a costly robe and coffin, and hire the dressmaker to drape my daughters in crepe, and erect a tall monument to commemorate my supposed virtues. But rather, I hope, he will measure off a piece of land, and build a little house thereon, and deed it, "For Leota's sake," to my helpless neighbor—a worthy widow—who is struggling to keep her little ones together, and make for them a home. Or, he might pay the mortgage off on the home of another neighbor, who for several years has been a sufferer, unable to rise from his bed. Stricken with disease in the prime of his manhood, he lies, with his helpless little family around him. To lift the burden of debt from his poor crippled shoulders would be a much grander tribute "To the memory of Leota" than a marble angel carven by the hand of the world's greatest sculptor.

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We will send The Practical Farmer and the Youth's Companion, both for one year, and The Practical Farmer Almanac for 1904, for only $2.50.

Our Book Table

VELMA CALDWELL MELVILLE.

"Can you tell me of a good book for boys?" is an oft-repeated question by Home Circle mothers, especially as the holiday time draws near. In order to be able to give an intelligent response we have been reviewing some of late, and this week want to call your attention to "Andy Barr," written by Willis B. Hawkins. It is pre-eminently a boy's book, though thoroughly interesting for anyone. Andy Barr is not the boy hero, as one might suppose, but a one-legged cobbler, an old soldier and then a new one, and better than all, a genuinely good man, who, in his quaint, homely way, gives the boys of Mornington—and incidentally of all time and places—some excellent advice and useful lessons. The juvenile readers will enter at once into the spirit of Jimmy's circus experience and Fred's triumphal ride. They will enjoy all the adventures of the two boys, and the several other boys. Readers a little older will follow with romantic interest the love vein running through the latter chapters, and puzzle a little over the plots, simple as they are. And then the war side of the story, for it begins just befor the firing on Fort Sumpter. Senator Staunton's plain, touching address to his fellow citizens is just such an address as every boy ought to read, and the war accounts given from time to time through the book will arouse in the mind of the juvenile reader, an interest in history. Mornington is supposed to be an Illinois town, and some of the adult characters are personal friends of "Abe Lincoln." Speaking of him reminds us of one laughable incident when Andy Barr met the President. Looking at the tall, angular man, he said:

"Say, did anybuddy ever tell you y'u look like Abe Lincoln? I've seen pictur's o' him that looked a good sight more luk you, I s'pose than they did luk him."

The tall man's smile broadened.

"I don't know whether that's a compliment or not," said he.

"Wal, if you take it one way, tain't. I've heard that Abe wa'n't the all-firedest beauty that ever was."

The tall man's now almost boisterous laugh brought the attendant hurrying in.

"But if you take it t'other way," Uncle Andy went on seriously, "y'u ought to be proud of it. If you've got as much sense in yer whole carcass as he's got in his little finger, you ain't got nothin' to complain of."

"Well, Charlie," said the tall man to the attendant, "your patient is worth a good many dead men yet."

"Yes, Mr. President, he's coming on finely."

"Jubiter!" Uncle Andy exclaimed, "you ain't President Lincoln, sure enough?"

The President heartily enjoyed the old soldier's grimaces.

"Yes," said Andy," the doctor keeps saying I talk too much; and I guess he's right. There's somethin I wouldn't said, though, if I'd a knowed who you was."

"Don't spoil it, Barr, by saying I am a beauty."

"Oh, 'twant that. 'Twas what I said about your having so dum much sense."

The book abounds in bright anecdote and pretty story, all pointing a moral. Altogether it is a bright, helpful, wholesome book, one any mother may put beside her boy's plate on Christmas morning.

* * * * * * * *

Among the new books for boys we especially want to call attention to the historical novel, "Ahead of the Army," by Wm. O. Stoddard, and we hope it may find a hiding place in the "Christmas drawer," being filled by many Home Circle mothers. Briefly, it is a story of the Mexican War—a war, by the way, of which we hear less of than most others, and one concerning which our boys need posting. Our hero, Ned Crawford, is a wide-awake American boy who arrives in Mexico about the beginning of the contest. The author goes on to follow his fortunes, as he acts as guide to the American Army and forms the acquaintance of such men as Grant, Lee and McClellan. Of course they were "young fellows" then, but meeting them at this early day, and seeing them with a boy's eyes, and hearing them with a boy's ears, will make all boys feel better acquainted with them in later life and add an interest to what might otherwise be dull lessons in history. The book combines fact and fiction, but the former is in the ascendency. The preface alone contains some historical data that is of importance to the young student. For instance:

"There have been fifty-five Mexican Presidents; at one revolutionary period, four within three months, and to this list must be added two emperors and one regency. Both of the emperors were shot, so were several of the presidents, and nearly all the others incurred the penalty of banishment. How this came to be so will possibly be better understood by the young Americans who will travel with our hero."

"Ahead of the Army" is a well bound book, with illustrated cover, large print and the general "taking appearance" that pleases the juvenile reader.

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"PILGRIM SERMONS."—And now we want to tell of another book—the best one we have read for many a day. Countless tourists have written of their travels in the Holy Land, but in our opinion this volume of "Pilgrim Sermons" is by far the most like seeing and hearing for onesself, of any we have read. From the landing of the young divine—the late Arthur C. Kempton—at Gibraltar, we are spellbound by his graphic descriptions and trite applications.

The first chapter is a wonderful description of Gibraltar and its fortress, and the text used is, "The Lord is my rock and my fortress." The second chapter treats of Mt. Vesuvius and Pompeii, and the text reads, "He, being dead, yet speaketh."

His description of the scenes in Pompeii far transcend any we have read before. With him we seem to be in those ancient homes, gazing at the pictures on the walls, or in the temple beside some petrified form, or at the city gate lost in profound admiration for that Roman soldier clad in complete armor, who died unflinchingly at his post of duty.

The next chapter is "Reminders of Paul," in which his prison and his traditional tomb are described. "Treasures of Egypt" is an interesting account of the land of the Pharaohs; then comes "First Glimpses of Immanuel's Land," "Mountain Top Views," "Glimpses of Joppa," "Jerusalem as it is Today," "Bethlehem," "The River Jordan," "Nazareth," "Voices from the Flowers," "Blue Galilee," "Jacob's Well," "The Mount of Temptation," "An Illustrated Bible," "People of Palestine," "Life in the Holy Land," "Sanctuary of the Mind," "The Soul's Vision of God."

But the reader cannot even imagine the wealth of thought and information in each chapter from the titles; they are full, full. Some of you will never read this book, therefore we want to quote just a few sentences:

"The only Samaritans in the world today are to be found in the city of Shechem, at the foot of Mount Gerizim, and they are but a handful. Positively refusing to marry with people outside their own number, they have gradually died out until now only about one hundred remain, and soon even they will be gone. The oldest and smallest sect in the world, they still worship in their humble sanctuary at the foot of the mount, upon which the temple of their fathers stood. * * * Gerizim is the only place in all the earth where still ascends the smoke of sacrifice." To us, in this land of change and progress, it seems incredible that they are traveling the same roads in the Holy Land that they did two thousand years before Christ; drinking from the same wells; adhering to the same customs.

But we have only hinted at the treasures of this book; they are beyond description; but through it all—the writer's yearning to stand on holy ground, to look upon the very things Christ looked upon, to drink from the same waters he drank from—the thought is with us: He hath entered into his possessions and met the Christ face to face. If only he could come back and tell us of the glories of the new Jerusalem!

Add this volume to the Christmas drawer.

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THE ENTERPRISE MFG. CO. OF PA., Philadelphia, Pa.

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We will send The Practical Farmer and your choice of either the Chicago Weekly Inter-Ocean or the Philadelphia Weekly Press, both one year, and the Practical Farmer Almanac for 1904, all for only $1.25.

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Going to School.

D. C. D.

"What is the use of my going to school any longer? I can do problems in interest and figure up a store bill and that's education enough for me." These are the words we hear many a boy and girl say.

But this is not enough. Even if you do not intend to win fame and honor you need a good practical education. If you intend to be a farmer or a farmer's wife, you need an education. It will help you in the social life, make you take an interest in what is going on around you, and you will have a taste for good books, magazines and papers.

If girls would go to school longer instead of entering into matrimony there would be fewer divorce cases and more happy homes. And the young men also, if they would go to school instead of sitting around the village store smoking and gambling, they would become better citizens when they reach manhood, and prove a blessing to their country.

Even if parents have not the means of sending their children away to school, they can send them to the high schools in the small towns, and they can easily work their way through. Boys and girls, do not be content with the small things in life, but have an aim for the higher and loftier ones.

Did Abraham Lincoln go to college and study law? Was he the son of a wealthy gentleman? No, he was a poor, honest laborer, yet he became one of the greatest men in America. Parents, impress upon the minds of your children while they are small, the need of learning. Remember,

"'Tis education that forms the common mind,
Just as the twig is bent so is the tree inclined."

Pennsylvania.

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Evening Games in the Family Circle.

D. M. C.

There are various ways in which the family circle can spend the long evenings. Various games may be played to the improvement and amusement of all concerned. Anagrams is one of our favorites. We have spent many evenings in playing it, and find it very entertaining. You get right down to business and it improves your spelling, sharpens your wits and teaches you to take a joke now and then. When you have spent the evening in this way you can then go to bed and have a good, sound night's rest. Do what you can to keep up a cheerful spirit in your household. Invite in your friends and neighbors and have a good time. Crack nuts, pop corn, have something to talk about. Be on friendly terms with your neighbors. It won't hurt you if you talk about what you think is for the best interests of our country at large. A farmers club, it seems to me, would be worth while if rightly managed. What are our lawmakers doing and what can we do about it to make them work for the people's best interests? How about oleo?

New York.

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A Day Off

JOSIE H. RIBBLE.

During the busy summer time, when there is plowing and planting, harvesting, haying and threshing, not to mention the canning, preserving and pickling, the care of young poultry and all the ordinary tasks, it seems to be an almost unthought-of thing for the never idle farmer's wife to think of taking even one day of rest; but in these times when Chautauqua Assemblies hold meetings in so many places, it is not a difficult task to find a very suitable place for a day of recreation, education and enjoyment. Of course, there are many other gatherings where a day could be very pleasantly spent, but the Chautauqua was the one that gave "a day off" to myself and little daughter, accompanied by my brother, who made an excellent companion (husband being in the hay at the time). Leaving home at 7.30 A. M., we had a short drive to the station, then a two-hours' ride on the train, the latter part of which was marked by beautiful scenery. The broad Mississippi was on one hand, while on the other were high overhanging cliffs on whose tops were towers and pinnacles of nature's carving. As we gazed in rapture at the beautiful scene it seems that very quickly the stopping place was reached, and as we alighted, our gaze was drawn away up the valley where summer cottages and tents dotted the avenues of this scenic camp meeting ground. We, with many others, passed through the entrance gates up the shady avenue along which happy, laughing children run to and fro in perfect freedom; on to the gurgling spring whose incessant flow it is estimated will supply 20,000 persons daily. Here we quenched our thirst. We then went over to the Auditorium, where a lady physician had charge of the School of Health, and listened to most excellent advice as to the winter clothing of little boys and girls, also how to help the doctor in cases of pneumonia, treatment of colds, sore throat, etc. Following this was the W. C. T. U. hour, that today was a real treat, given by a chalk talker. This lady possessed great talent as an artist, speaker and elocutionist. Her pictures, which were made with colored crayon as she talked, had the appearance of natural oil paintings, and were beautiful indeed, as well as illustrative of her subject, "The Ideal Girl."

Now came the noon hour, and we sought a shaded hillside, and with a bucket of cool spring water, and a basket of lunch taken with us, feasted, with all care and worry thrown aside, enjoying the freedom like the birds in the trees above us. After eating our lunch we walked about the grounds, viewing the beautiful summer homes, the surrounding cliffs, and, most of all, attracted by the perfect enjoyment of everybody there. At 1.45 we enjoyed a rare concert by an orchestra and ladies' quartette, after which a lecture by Prof. A. W. Hawks, "People I Have Met," which called forth both laughter and tears, but left you feeling good at its close. Later in the afternoon we watched the swimming—a group of thirty-five or forty in all stages of swimming from the beginner to the expert swimmer. The day was ideal, and our enjoyment was in keeping with it. Though we came home very tired, the day had been a beautiful dream of reality, and for the small outlay of money the return was great. (The total expense was less than two dollars and twenty-five cents.)

"But," someone says, "I can't leave home and stay all day like that." Yes, my dear sister, you can. Plan several days ahead and have everything in readiness. If you have no girls of your own to look after the house, dinner, chickens, etc., just borrow one or two from your neighbor, aunt or cousin, and take a day off; forget all the troubles and worries and let one day's pleasure smooth out some of the wrinkles forming across the forehead.

Illinois.

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In the Kitchen

Fannie M. Wood, Falmouth, Ind., writes in regard to why canned fruit spoils. In the first place, fruit should be fresh and not too ripe to keep perfectly. Heating through and through to the boiling point destroys the microbes that cause spoiled fruit. It is not heated through when the juice boils up from the bottom a few minutes after the fruit is put over a hot fire. Stirring with a wooden spoon will cause it to heat and cook evenly. Cans, lids and rubbers should be well cleansed and scalded. Old can lids not properly cleaned, and the using of tin cans after they are too old, are the cause of much canned fruit spoiling. Imperfect rubbers let in the air with its living microbes. New rubbers are required often. Sometimes the sealing wax is too brittle and breaks easily, letting in the air. The least bit of lard added to the hot wax improves it. Fill the cans brimming full of the hot fruit, put on the lid and slightly jar the can to settle fruit and you will have room to add another spoonful or two before sealing. Leave no room for air. If there is the least bit of moisture in the groove in the top of the can the wax will come loose. The fruit spoils sometimes because the wax is not pressed firmly where it belongs. It is a good idea to run a hot iron over the wax after it has cooled. You can tell whether fruit in self sealers will spoil or not by turning the cans on their heads for a few hours. If there is any sign of a sizzling noise or leak they will not keep unless heated over, and new rubbers or covers may be needed. Fruit keeps best for us in sealing wax cans. Many of the cheap tin cans are poorly finished inside and therefore not satisfactory to use. Pears will not keep perfectly unless thoroughly cooked. Peaches keep better and look nicer if cooked in a syrup of granulated sugar and water. The quantity of sugar used depends upon the family's taste and the sourness of the peaches. The action of light spoils much fruit. After canning store in a dark, dry, cool place. One mistake often made by the housekeeper is trying to can too many fruits and vegetables and not being exact and thorough enough in the work.

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Correspondence.

R. F. Merryman, Melrose, Fla., writes: Dear Home Circle, I am wondering what the weather is just now in your part of the Union. In fact, I have been noticing through the summer that the newspaper reports told of extremely hot weather everywhere, and sunstrokes in some places, and I, in my vine-clad cottage, where there is always a breeze, have not suffered at all from heat. I believe many people in the North think of us with pity in summer, but it is not necessary, for we have always a nice breeze from gulf or ocean, and the nights are invariably cool. I do not know how it is in other parts of Florida, but we are in the clear lake region, midway between gulf and ocean, and the land slopes each way to the sea. The fresh breezes and the beautiful clear lakes make this section the most healthful in the State, while the wonderful variety of the products makes it a delightful place to live. We are now having beautiful weather, much like the pleasantest of summer weather at the North, and the best of it is that it will last such a long time before we have a hint of frost. The wonder to me is that so many people continue to live in the North, with its cold winters and uncomfortable summers, when they would be so much more comfortable here. I wish many of the H. C. would tell us about their localities. It would be almost like a visit to those sections of the country, and I am sure we should all enjoy the letters. Do let us hear from you, sisters.

[We heartily second Sister Merryman's request for letters from different localities, but want to say if anyone has had hot weather the past summer, they do not live in Wisconsin. There has not been a day this summer but we have had fire in our sitting room, and we commenced burning coal in the early part of September. No need of sea breezes this year. It was rather amusing when the Fresh Air children came out from Chicago "to get away from the heat," presumably, to see them shiver. Fresh air was away below par. But it has been a delightful season for man and beast to work.—ED.]

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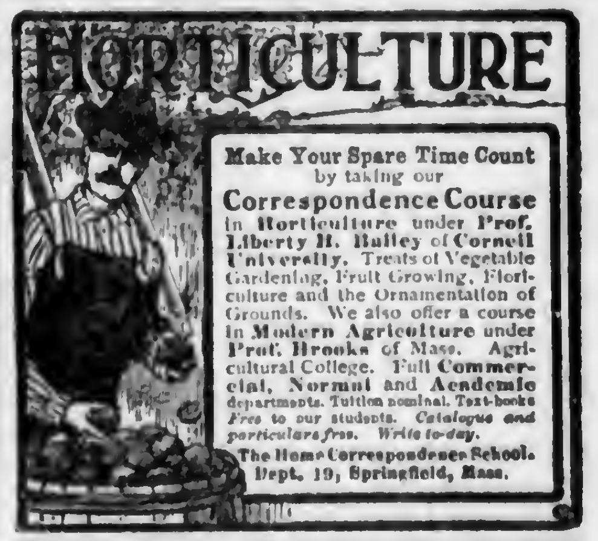

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Topic No. 604, Dec. 26.—*Has The Practical Farmer Made any Dollars for You in 1903?*

Topic No. 605, Jan. 2. — *How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 606, Jan. 9.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 607, Jan. 16.—*Have You Found it More Profitable to Spread Straw and Clover Chaff on the Wheat Fields or to Use it all in the Manure?*

Topic No. 608, Jan. 23.—*Have You Found Currants and Gooseberries Profitable Garden Crops? If so, Give Your Experience in Their Cultivation and in the best Varieties for Market.*

Topic No. 609, Jan. 30. — *Which Breed of Cows is Best for the Farmer who Simply Keeps Them to Supply His Family and Have a Little Butter and Milk to Sell at Times?*

Topic No. 610, Feb. 6.—*Give Your Experience with the Celery Crop, Varieties, Storing and handling for Market.*

Topic No. 602.—Many Farm Yards and Premises are Seas of Mud in Winter. Have You Made Any Effort to Prevent This at Your Place, and How?

John H. Overton, Borden, Ind.—In the great dairy section of Eastern Pennsylvania (Bucks and Montgomery counties), I have seen some of the farmers turn their cows in yards in which the mud and manure was so deep that the udder would drag in the filth. Others wheel the manure from the stables into the barnyard and scatter straw with it. This method keeps the yard in better shape, but the manure, being exposed to the rains, undoubtedly loses a great amount of fertility. The foregoing are, of course, exceptional cases, but by no means overdrawn. Having cited what the writer considers bad practice, he will proceed to eliminate the "sea of mud." Selecting the site for my barn, on the south slope, and pretty near the top of a hill, I first laid the foundations, letting the stones extend two to three feet above the general surface. Now with plow and scraper began on the upper (north) side of site, to plow and draw the soil in among the foundation, until at 20 feet from barn the surface was considerably lower and sloped gradually away from barn. By this means the water ran off in every direction; but the soil, being a tenacious clay, was very slow in drying even then, and after a thaw would be very muddy. In order to make a more firm surface I covered it with a coating of broken stone and gravel. Thus while some of my neighbors were plowing through slush half knee deep, I could go to my barn, do the chores and return with dry soles, and soul unwearied.

J. O. Shroyer, Humboldt, Neb.—When we started our home some years ago it was in the autumn, and the place was a corn field, and we were convinced that first winter that something had to be done to do away with the mud. In the spring we plowed the yard and harrowed it well and then sowed it to oats and blue grass with a slight sprinkling of white clover, and in three years we had a fine sod, and it has so continued. Of course the hens, hogs and other stock should be kept off the lawn, as they have a tendency to linger about the doors and will reduce the finest sod to bare ground in time if allowed about the doors. We put board walks from the house to the important points about the place and will replace them with brick or cement when able. For our hog lots we gave plenty of space, then built a feeding floor and floored the shed, so that they have at least two places where it is always dry. We have a good milking shed or cow stable for the cows, and the calves have a shed and in wet weather they are not allowed to stand about the lots at night, but are put in the sheds. The road scraper is all right for the purpose of keeping the lots dry, as one can remove all surplus loose dirt and manure and keep open trenches where needed to drain the lots. We scraped a ridge of dirt all about the tanks so that the water all drains off. Then we have our lots arranged so that no loose stock can ever get in front of the barn, and in consequence it is never tramped up. At the back of the barn there is an overshot and the pathway under this is laid with niggerhead boulders, so that we always have a perfectly dry passage from one end of the barn to the other, and doors lead from this to all parts of the barn. We spent a whole day this fall in filling up all the low places about the gates and in front of sheds, with a team and scraper, and in making open drains to carry off the surplus water. Then get yourself and each of your boys a pair of rubber boots, the snag-proof kind, and you need not fear the mud then.

Rudolph Boewe, Bone Gap, Ill. — It seems that allowing the stock to run about the yard in winter is the main cause of its getting so muddy. The stock make tracks and these fill with rain and freeze and thaw. We fence off a small lot for horses and cattle at the straw stack or some other convenient place, early in the fall and feed fodder on the ground (while it is dry) and get a layer of stalks over the entire lot before winter; or, if we have not fodder, we put down straw and other litter and then turn our stock in, not allowing them to stay in the barnyard and around the water trough. If enough litter is used the lot will be dry all winter and there will be a lot of manure to haul out in the spring. The horses do not get the scratches. We have been doing this way ever since I can remember, and our yards are dry, excepting in the worst weather, and then they are dry long before our neighbors, who let stock run where they please.

M. P. Lowry, Mosgrove (Pa., we suppose, though no State given). Our experience has taught us that there is only one permanent remedy for muddy yards; that is underground drains, either stone or tile. Here we have outlet for main drain at a very short distance and have both house and barnyard underlaid with stone drains, stone being the most convenient. With an experience of 28 years with some of them, can say they are all right if properly constructed. The first requisite is to get main drains with plenty of fall and good outlet, and, by running out laterals to tap every available spot likely to become wet you have the mud subdued. We dig ditches from 18 to 20 inches wide and from 2½ to 3 feet deep. Wall up sides and bottom with small stones then cover with large ones, throw in more small ones and then fill with earth. We put ours 6 feet apart. The yard may yet become muddy by allowing stock free range. Water stock in barn or turn out and water at regular times and return to the barn.

Louis Lawrence, Springfield, Minn.—Our soil is sticky black clay, and in wet seasons the yards are very uninviting. I have found that a liberal application of coarse gravel to walks and paths will ameliorate this unhappy situation. Coal ashes and slag are also excellent for this purpose. If there are any depressions that do not drain readily they should be drained or filled up and the yard sown to grass. A good sod is an excellent cover for mud and a beauty.

L. H. Norris, West Rush, Monroe Co., N. Y.—We do not have much mud in our section, as the yards are frozen a good part of the time. There is nothing like gravel to do away with mud. We also use coal ashes on our drives, making a good smooth covering. For a farm yard I think red or blue clay is better than gravel, but whatever you use on the drives you should make them a little higher than the ground around them.

George S. Davis, Northwood, N. H.—We never have a muddy yard, but always a grassy one. Our stock is stabled all winter, as we think them more comfortable in a sunny, airy stable tied with chains so that they can move some, than out of doors where the air chills to the bone. Calves are kept in pens where they can have exercise, and usually two or three together so that they can keep each other warm. Our stock seem healthy and contented and we have plenty of milk and first-class butter. In summer the young calves are out in the pasture all the time and cows are kept in stable every night. There are very few nights that they are not perfectly comfortable in the stable, as this is a breezy place and windows and doors are left open. We do not think it is necessary to turn a milch cow out in the north wind to prevent tuberculosis and have never had a case since we have been here.

M. E. Bemis, Decatur, Ga.—We have improved parts of our yard and cow lot by hauling cinders and spreading several inches deep in the worst places. I think it is better to make several applications than to try to do it all at once. The cinders seem to work in the clay and make it more porous so it does not hold the water as the clay alone does.

Eveline S. Barker, Torrington, Conn.—My yard was very muddy and had no drainage. I had an open shed built for storing the manure. The front is made of two lengths of 8-foot plank which can be removed when manure is drawn out. The pigs have the run of this manure pile, though they have a pen with cement floor. The rest of the yard was dug out and covered with small stones, well packed. These were covered with earth and that was packed. A drain had been plowed from one corner of the yard leading the water to the meadow and the yard was graded towards this drain. I also put up eave troughs to catch the water from the roof, these emptying into the same drain outside the yard. The droppings from the stock are gathered up and put into the manure pen. The yard is not perfect yet, but very much better.

H. C. Boone, Wolf Creek, Ky.—My plan is not entirely successful, but quite a help in heading off the sea of mud. My straw is stacked in the barn lot. I commence early in throwing down straw for the stock to tramp upon. If the straw holds out till April I stay on top, but if it gives out I am in for awhile. Every farmer should have a rick of straw at the barn for this purpose so that each season's straw is turned into manure. I tell my neighbors "Give me straw and take the wheat." But few farmers are able to house all their stock, but they can do the next best thing and have a big straw rick in the yard to keep the stock and the farmer out of the mud.

Lewis W. Davis, Cazenovia, N. Y.—Five years ago our farm yard was from ankle to knee deep in mud the greater part of the winter. We cleaned out the soft mud and filth and drew in cobble stones to a depth of six to ten inches, leaving the centre a little higher than the sides. Over this we placed a layer of gravel, and when this packed down the yard was as hard and dry as a road.

S. A. Shaw, Auburn, Me.—The spring after I moved on my farm I got stuck with a loaded team in the yard. At first opportunity I dug a ditch in the wet place down to hard pan, and filled with small stones to within six inches of the surface, covering this ditch with earth from another ditch alongside. Filled this second ditch with stones and covered by digging another, and continued these ditches the whole width of the yard. I can now cross the yard with the heaviest loaded team at any time of the year. If stone was not handy I would drain with poles and brush.

E. J. Adkisson, R 13, West Nashville, Tenn. — Years ago around our barn in freezing and thawing weather was a sea of mud, and the road from the barn to our warehouse on the Cumberland River would get so bad that in some of the worst stretches the hubs of passing wagon wheels rolled in the mud. Now the mud has almost disappeared from our barnyard, and something more than a mile of private road is firm and smooth all winter. The remedy: Creek gravel put on liberally, added to and renewed when needed. The improvement has cost a neat little sum of money, but the freedom from mud is worth the cost.

J. W. Sparkman, Middle Fork, Tenn.—I built where there is some slope to the land, and in front of stable doors and where there is the most tramping I floor over with rails and barely cover them with earth. Then I do not let the stock tramp around more than is actually necessary when it is muddy. As we have no rock or gravel here I use plank for walks, and take them up in the summer.

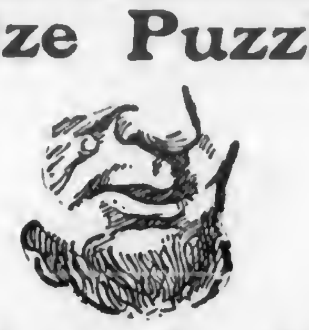
Geo. W. Stickley, Strasburg, Va.—I have made an effort to prevent seas of mud about my yard. I have a yellow clay soil around the house and barn, which gets very muddy in winter. Four years ago I dug blue slate in large pieces and hauled it to the farmyard, covering the entire yard a couple of inches. In a year they are pulverized quite fine by the freezing and thawing. I have not found any better method for getting rid of the mud.

E. E. Lawrence, Spafford, N. Y.—About the only practicable way we have found to avoid mud is to so locate the buildings and barnyard that you will not have to go through the barnyard to get to the barn, or to make walks by plowing out to the depth of a foot or more and filling in with broken stone and gravel or cinders. Make the driveway in the same manner.

Lelan D. Hanna, Lisbon, N. Y.—Five years ago I bought a farm in the fall after the ground was frozen up; in the spring it was impossible to get the stock from the stable through the yard, to water, without getting them mired. There was a field along the road near the barn, that was plowed the fall before. As soon as the ground got so I could work on it I cultivated it both ways. The field seemed to be completely covered with stone. I went to work drawing stones into the barnyard, drawing the largest first, levelling up with the smallest ones. I used the spring-tooth cultivator and drew stone until I think I lowered the field six inches; at the same time, I raised the barnyard two and a half feet with stone. I then covered the stone with gravel four inches deep. Since then I have had one clean field and a dry barnyard. I think there is no excuse for a man that has stones on his farm and a mudhole for a barnyard.

SUMMARY.

Instead of attempting any real summary of the papers presented, the Editor proposes to give in his own experience with the rest. Our first experience with the peculiar red clay of the Southern uplands was in Albemarle county, Virginia. We had been accustomed to finding that an abundant supply of litter in the barnyard would absorb the manure and render it easy to get about, and that all one needed was good paths of cinders or gravel to the barn. The clay we had been accustomed to packed hard in the barnyard and the heavy cover of straw prevented any mud. But we soon found that no amount of litter and tramping would pack the red clay of the Southern Piedmont, and that it would work up with the trampling of the cattle until the litter and manure and red mud were all mixed together. Our barnyard was surrounded with buildings and the roofs pitched toward it and gathered there much more water than fell directly on the yard. We argued that if we drained the yard we would lose too much of the best part of the manure. In that climate the keeping of cattle housed in day time in winter was out of the question. They were better off in the yard in the sunshine. We were short of straw, but had an abundance of forest leaves and we kept hauling these all the first winter, hoping to stop the muck, but with little success. In the spring we cleaned out the yard and determined that that would be the last accumulation of the sort. The first thing was, to gutter the eaves so that no water fell in the yard but what came directly on it. Then, having a steam engine and rock crusher at hand, with which we were macadamizing all the farm roads, we filled the barnyard a foot deep in broken granite, starting with heavy rock and finishing with the finest and packing the whole solid. Then, having at all times a large herd of milch cows, and in winter about 100 beeves feeding, we concluded that the best method for us was never to allow any manure to accumulate in the yard. We made it the daily morning work of a man and team to haul to the field the accumulation of the night before, and spread it on the sod that was to go in corn the next season, so that whatever leaching took place would be right where some plant would be looking for it, and not in the barnyard. The next winter, and every winter thereafter, a lady could walk through the barnyard with slippers when there was no snow, and run no risk of soiling them, and we got a third more land covered with manure than ever before. Then we had one field up in a mountain hollow that could only be reached by driving around through a neighbor's barnyard, and his yard was always nearly impassible for teams in winter. By blasting off a rocky spur of the mountain that overhung a stream we succeeded in engineering a road on our own land, and making the distance much shorter. Then this road, and all the farm roads over that big 1,200-acre farm, were macadamized so that we could get around in any weather. Of course, work of this sort involves more means than most farmers can command, but as the work was done a little at a time it was not seriously felt. Where rock is abundant the macadamizing is the best thing that can be done to avoid mud. In the same section a friend in town had a large coal yard where the mud bothered him. Having an opportunity to get coal ashes and cinders around the town in abundance he hauled these and added just enough coal tar to the heaps to make the ashes crawl when shoveled over. This mass was then spread over the yard, and well packed down, and in a little while the heaviest coal wagon could drive over it smoothly. One barrel of tar did the whole, for the object was to avoid having too much, just enough to make the ashes bind. It was a perfect success and the same plan can be used in making stable floors better than cement and fully as impervious. Screen the ashes and then add the tar to the finer part to cover the coarse cinders with, using barely enough tar to make the ashes sticky. To do this a thorough shovelling over is needed, and it is better to have too little than too much tar, as an excess will get soft in warm weather. The same method can be used in making smooth hard walks about the barn and buildings, and it is the best use that can be made of the coal ash accumulations. Having a barrel of tar at hand the work can be extended by degrees as the ashes accumulate until one can have smooth, hard walks all around. Then if at first they get soft in warm weather give them a coat of sand.



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Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article "For Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Sub-Surface Packer.—I have made a very successful implement for packing the ground, by taking two old threshing machine cylinders, removing the teeth and making a frame around them similar to the frame of a land roller, with box on top for stone weight. I find it just the thing for mashing down newly plowed land for seeding to alfalfa or millet, or in fact, any small seeded crop. Land which is gone over with this machine will not blow in a windy country as it will when rolled with a common solid roller. JOHN HOLT.

Delavan, Kan.

[This strikes me as being a good idea. The heavy cylinders with their bars would undoubtedly do a better job of "mashing down" and pulverizing the soil than would the solid roller. In sections where much small grain is raised it will not be difficult to pick up the cylinders. They should be of the same size.—ED.]

Where are My Tools?—This is a common question, and I would like to know why you do not answer it by putting up a tool house and keeping all tools in it? I have learned that a good, serviceable house can be built cheaply and with very little trouble. It may be made by setting poles in the ground, and but little framing will be required. Or you can make it just as expensive as you like. And after you have made the house and got all the farm machinery into it, get a work bench, a vise, an anvil and blower, and all the common blacksmith tools that you seem to need, then have a portion of the tool house set apart for their use, having the house made large enough for this.

LaBelle, Mo. B. P. WAGNER.

The Self Rake in Buckwheat.—After wasting a good part of my buckwheat crop last year with a mower and horse rake, I concluded there was was no use in raising a crop if I could not save it. So I purchased a Deering self rake machine, and find it a good machine with which to save clover seed and buckwheat. You can rake it off in any sized bunches that you desire, large, medium or small, and it will save nearly every straw of your crop, no matter how badly it may be blown down. V. W. REED.

Federalsburg, Md.

◆

17,000 *subscriptions expire with our December 26th number and will be cut off the list at that date if not renewed. Renewal subscriptions must be sent before that date if you want the January 2nd number.*

We will send The Practical Farmer and your choice of either the Cosmopolitan or McClures, both for one year, and The Practical Farmer Almanac for 1904, for only $1.70.

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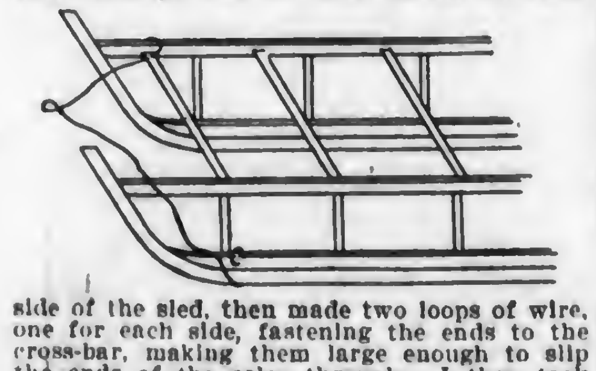
The Old Pin Sled.—This is a very common implement or vehicle on Pennsylvania farms. I struck upon a plan of fastening the sole on in front, which I consider an improvement over the way they are usually fastened. I allowed the front cross-bar to stick through two or three inches on each side of the sled, then made two loops of wire, one for each side, fastening the ends to the cross-bar, making them large enough to slip the ends of the soles through. I then took a piece of wire several feet long, tied one end to each runner and twisted a loop in front to hitch to. F. H. FOSTER.



Vanormer, Pa.

[This hitch will do very well for hauling about on the farm when there is no snow, but on snow we would most certainly want a tongue in the sled.—ED.]

Protection for Wagon Thimbles.—To prevent wagon thimbles from wearing out so soon, procure of a tinner four pieces of sheet-iron, or tin, if nothing better can be had, about 6x10 inches, according to the size of the hub. Punch several holes near the edge of metal the long way, bend the pieces to something of a half circle. Now, with 2-penny wire nails nail through holes and into top of axle just inside the ends of the thimbles. The outer edge will be just above the hubs and will keep out dust, mud and sand. This will save axle grease and there will also be a great saving in the wear of boxes and thimbles. LEE MCCARTER.

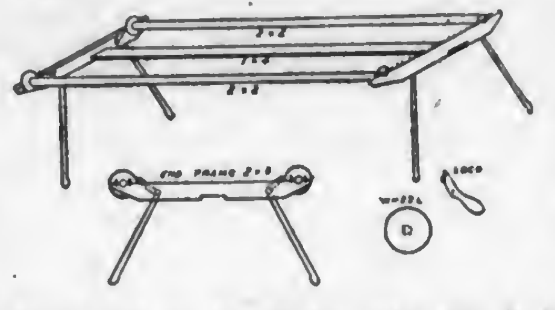
Lisbon, Tenn.

About Plows.—There are many brands of turning plows on the market, some good, some bad, and others indifferent, the latter class exceeding all the rest. If one gets hold of a really meritorious article he is in luck. Last year, and for several years preceding, we used a Bissell plow, which at that time was the best plow we had ever used, and we had used several different makes. The Bissell plow was a No. N, wood beam. Breaking it last fall beyond repair, we this year purchased a steel beam Vulcan plow, and for a No. 1 plow we do not believe it can be excelled. We bought on trial and tested before buying. It is light running, takes the ground well, does not bounce in hard ground, runs level and can be regulated to run any way a person wants it to. In smooth ground we can let loose the handles and it will maintain an upright position and plow right along for a considerable distance. It turns the soil completely over, not edging it up as many makes do, thus covering up all vegetation on the ground. It is very strongly made and one need not fear of breaking it in hard, rough or stumpy ground. A neighbor of ours broke newly cleared land with this, but we do not think best to subject ours to such a strain. We did not know there was such a difference in draft between a wood and a steel beam plow until we tried it, and nothing could now induce us to buy another wood beam plow. We actually believe our steel beam runs 25 per cent. lighter than the old wood beam plow. L. W. BARNETT.

Cartmell, Mo.

[The difference in draft can hardly be laid to the simple fact that one plow uses a steel beam, the other wood. It must be due to causes outside of this.—ED.]

Improved Quilting Frame.—As I am a subscriber to The Practical Farmer, I will send in a sketch of a very useful home-made quilting frame, which can be made in a short time by almost any man who is at all handy with tools. The wheels, rollers, brace and lock are of soft pine, while the side frame is of hard-wood. The legs are made of old broom handles. C. P. DILTS.



Leon, Kan.

The Portable Forge.—I wonder how many farmers there are who really know the value of a good portable forge. One of these is very useful on the farm and can be bought for eight or ten dollars. Of course, those who have stone on the place, or have brick handy, could build, or have built, a forge out of either of these, but I believe they would find the portable forge the more convenient. When something breaks (and when is the time there isn't something breaking?) we can go to work and repair it ourselves. It is also a good way in which to teach boys to be useful and saving; a valuable lesson in these days of extravagance.

Collegeville, Pa. S. L. HALLMAN.

A Good Corn Planter.—I think the best tool of the kind that I ever saw is an Eclipse corn planter. It will drop one grain every time when drilling, and put in three or four when checking. It has horizontal plates, chain feed and open wheels, so that it presses the dirt to the corn and leaves it just right. It will pay anyone who wants to farm right, to look over the Farm Implement Annex. L. S. HUBBARD.

Claremore, I. T.

Cheap Garden Tool.—I have used to good advantage and with much pleasure in my garden, an old mop handle with part of the iron fastening left on. The tool thus consists of a wooden handle, with an iron cross-piece about five inches long and one inch wide at the end of the stick. I have found such a tool very convenient in working near rows of plants and in thinning out plants. N. BACON.

Chicago, Ill.

◆

A First-Class Line.—The S. Freeman & Sons Mfg. Co., Racine, Wis., manufacture a line of agricultural machinery that is noted country wide for its excellence. It embraces feed grinders, shellers, feed cutters, wood saws, wind mills, etc. No effort is spared to make these machines the best of their kind, and hence the name of the firm on any farm implement is a guarantee that it will give satisfaction in every particular. The prices are just as right as the implements. Quality has not been sacrificed to cheapness, but goes hand in hand with low prices. We advise our friends to send for catalogue 106 to the above address. It will prove a money and labor saver to you. When writing be sure to mention The Practical Farmer.

Happy Childhood Knows What's Best

Medicine that a child dislikes, will not do it much good. Sensible parents will give the little darlings medicine that tastes good and does good, and don't grip or gripe; the kind they like themselves.

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—W. A. Goin, Okmulgee, I. T.

"My little daughter complained of not feeling well and began to vomit and became very sick. A half Cascaret tablet was given her and in less than half-an-hour she got up as well as ever. Cascarets are a household necessity."
—Thos. L. Most, P. M., Trenton, Pa.

"My little girl was greatly troubled with worms, but after giving her a 25c box of Cascarets, she is entirely well."—Mrs. John F. Biley, 6 Sudler St., Gloucester, Mass.

"I have never used any remedy that has been as good as Cascarets. Have to keep them hidden from my little boy, as he eats them like candy."—Mrs. Robt. G. Fay Goes, Ohio.

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"For months I have used Cascarets, and my little ones require no other medicine."
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Medicine forced on the little ones loses half its power. Nasty, sickening medicine is an injustice to the dear little innocents who can't protect themselves, makes them peevish and afraid of the dose. When a child hates the medicine, it will not be effective. Children like Cascarets Candy Cathartic, ask for them and are kept healthy always and easily against the damages of childhood's ailments.

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Do more work; do it at less expense; do it at your convenience; be master of your own farm; be independent of hired help; do the work when you like and do it quickly and cheaply; take the power to the work, and save lugging work to the power. Our Portable Gasoline Engine can be quickly moved to any part of the farm, doing any kind of work that any power can do and doing it more cheaply. When all portable work is over, put in barn or workshop to do stationary work. No previous experience necessary. Catalogue free on request. Portable Engines, 3½ H. P. up. Stationary Engines, 1 to 60 H. P. Special price to the first buyer in each county.
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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T. Pettit, Box 32, Oneida, Kan.

Feeding Calves.—On the farm where dairying is carried on to any considerable extent, it is best to raise your own calves in order to keep up the dairy of young cows and always have cows and calves for sale. The first six months of a calf's life is the most important. Begin to feed them when they are from 1 to 3 days old; have rack and trough and tie with halter and 2 foot chain. It is best to have someone help in feeding them until they learn to drink. Feed new milk for three days, then begin to mix in some skimmilk and by the seventh day they can have skimmilk alone. Never overfeed them. I give three pints of milk the first month; they will learn to eat hay sooner if not fed too much. Add three pints the next month, and after they have learned to eat hay and meal greedily they may have all the milk they will drink. Never feed sour milk. Warm the milk to the temperature of new milk, for if fed cold, scours will result and that is the greatest drawback the calf can have. For scours scald a tablespoonful of ground flax seed and put in the milk three days; or one-quarter teaspoonful of salts in milk every other day; the third dose is all that will be required. At four months old begin to weaken the milk by adding warm water, continuing until they are six months old. Bran is the best meal until they learn to eat it up clean; never feed corn meal alone. A ration of gluten, bran and linseed meal is excellent; or bran, whole corn and oats is very good. Feed a tablespoonful of cotton seed meal and bone meal once a week if you have them, but never feed salt while you are feeding milk. Feed meal as soon as they are done drinking milk; this will prevent them from sucking at the trough. Increase the meal as they grow, until you are feeding two quarts, which with plenty of hay or cut corn fodder in winter, will keep them in good order until they are cows.

Elida, O. L. J. SHENK.

Farm Accounts.—Many farmers fail to keep accounts and are at a loss to know whether there is profit or loss in certain transactions. First-class business men keep correct accounts of all business and know just where they stand. Beginning with the first of March, I believe the farmer should estimate the value of all stock and grain and take account of cash on hand at that date. In one year he should invoice again, and then he can readily see what he gains or loses during the year. He must keep account of grain and other products sold, also of what he buys. Upon comparing results he will be surprised at the difference in different years. Whether he is building and making extensive repairs, or having sickness in the family, the cost will have to be considered in the one case the same as in the other. Some years he may be able to lay by $100 or $200, while the next year, with nearly the same crops, he may fall short that much. Now, in buying a book in which to keep farm accounts, get one ruled as double entry, and if you sell anything that is not paid for, charge it in the Dr. column and it will show that the transaction has been satisfied. Some people claim they can keep these accounts in their head, but this is impossible if there is much to memorize, and especially if one is getting old and forgetful.

		Dr.	Cr.
Feb. 3	Bought plow of Hellman	$10 50	$10 50
Feb. 8	Bought two cattle of T. F. Fox........	25 00	
Feb. 14	Sold horse to Miller		85 00

The first account shows it is settled in full; the second shows that the cattle were bought but not paid for. When they are paid for place $25 in the Cr. column. The third item shows that the horse has been sold and to whom, and that the money has not yet been paid.

Mosgrove, Pa. THOMAS PATTON.

Picking Ducks.—No fowl is cheaper or more delicious than the duck, but how often we deny ourselves the luxury because it takes so long to get it ready to cook. In order to get at the matter in a business-like manner, get the wash boiler and put an inch of water in it on the stove. A little wooden frame may be made to go in boiler which will support the duck above the water. Or sticks of wood may be used instead, laying them in the boiler and placing the duck on them. When the water boils place the duck on the frame, cover the boiler and let steam for two or three minutes, remove and pick immediately. The feathers will not be injured and will come off in handfuls, down included. Try this plan and you will never return to the old way. MRS. E. A. SMITH.

Hoopeston, Ill.

Raising Chicks in Brooders.—I will give my experience in raising incubator chicks in brooder. First I bought a cheap brooder of a firm in the East. It was ordered six weeks ahead; that is, before I would want to use it. It was shipped four weeks from the time I ordered it and it took four weeks to get it here. Thus it came about that I had a batch of chicks on my hands before I received the brooder. I therefore ordered another brooder from a firm in Chicago and got it in three days, put my chicks into it when they were seven days old and succeeded in raising forty out of forty-three. When these were seven weeks old I took them out of the brooder and put in fifty little chicks, but made a mistake this time in that I did not put the chicks into the hover the first night, and the next morning eleven were smothered, and ten died during the next day, having been trampled upon. This time I raised twenty-two out of fifty chicks. Will be more careful the next time.

Bishop, Ill. C. H. ZURBURG.

Chicken Feeding.—I have seen so much on chicken feeding that I am tempted to tell how I feed, as I am very successful. I feed no wet or sour feed at all; bread crumbs, finely cracked corn, sorghum seed and wheat bran are fed dry on the boards. If I feed table scraps they must not be sour. An abundance of fresh water is kept always before them, and the drinking vessels are washed every day. They have free range on oats that were planted for their benefit. Before I began my present plan I lost as high as 50 per cent. of my young chickens before they were three months old. Two years ago I raised 75 out of 76 hatched, and that one was killed. This year I have 163 out of 175 hatched out. Hawks got a few of them. I keep the B. P. R.; get new roosters every year. Give free range. For farmers they fill the bill in eggs and broilers.

Woodberry, Ark. MRS. R. J. VENABLE.

These Hogs Ate Artichokes.—Some time since Mr. C. C. Gettys, of Duncan, N. C., told about his neighbor's experience with artichokes. He says hogs would not eat them and tells it to warn others not to raise artichokes to feed hogs. I do not write to provoke a discussion of the matter, but wish simply to say that last year I raised some artichokes and my hogs were very fond of them, eating them equally as well as they ate corn. Friend G.'s neighbor probably turned his hogs off them too early, as they are not good until they freeze. If any reader of The Practical Farmer has artichokes and the hogs refuse to eat them, let him not be discouraged, but just wait until after Christmas and try them. I fed them the latter part of winter. They are fine hog feed and very cheap to raise for hogs. When planted and cultivated like corn, four hills will sometimes make a bushel. E. S. MILLSAPS.

Statesville, N. C.

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Onion Sets from Seed.—Having some seed of fine onions left when I made garden one year, I thought to raise sets from them for the next year's planting. So in July I planted the seed thickly, thinking they would ripen off before they got too large. But owing to the wet fall they continued to grow and were as large as hen's eggs when frost caught them, and still growing. If I had seen the instructions given in the P. F. a short time after, I might have had some fine sets. It was, however, my first experience in raising sets, as I always had fine onions from seed sown in the spring without sets. H. S. LOWRY.

Kewanna, Ind.

The Trying Time

In a young girl's life is reached when Nature leads her uncertain steps across the line which divides girlhood from womanhood. Ignorance and neglect at this critical period are largely responsible for much of the after misery of womanhood. Not only does Nature often need help in the regular establishment of the womanly function, but there is almost always need of some safe, strengthening tonic, to overcome the languor, nervousness and weakness, commonly experienced at this time.

If there is an invalid woman, suffering from female weakness, prolapsus, or falling of womb, or from leucorrhea who has used Dr. Pierce's Favorite Prescription without complete success, Dr. Pierce would like to hear from such person—and it will be to her advantage to write as he offers in perfect good faith, a reward of $500 for any case of the above maladies which he cannot cure.

"I wish to tell you the benefit we have received from using your remedies," writes Mrs. Dan Hall, of Brodhead, Green Co., Wis. "Two years ago my daughter's health began to fail. Everything that could be thought of was done to help her but it was of no use. When she began to complain she was quite stout; weighed 170, the picture of good health, until about the age of fourteen, then in six months she was so run down her weight was but 120. She kept failing and I gave up, thinking there was no use, she must die. Friends all said, 'You will lose your daughter.' I said I fear I shall. I must say, doctor, that only for your 'Favorite Prescription' my daughter would have been in her grave to-day. When she had taken one-half bottle the natural function was established and we bought another one, making only two bottles in all, and she completely recovered. Since then she is as well as can be."

Doctor Pierce's Common Sense Medical Adviser, in paper covers, is sent *free* on receipt of 21 one-cent stamps to pay expense of mailing *only*. Address Dr. R. V. Pierce, Buffalo, N. Y.

STEVENS

"Yes, that's what the boy wanted—a 'Stevens' Favorite, No. 17—it's stamped here on the rifle. He said he would rather have a 'Stevens' than anything I could buy. It's all right. *I have been shooting a 'Stevens' for almost 50 years* and it has never failed me yet."

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A Perfect Woven Fence No short wire ends to injury of stock. Heights 18 — 24 and up to 54 inches. Free catalog. CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

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SENT ON TRIAL A Fence Machine that will make over 100 Styles of Fence and from 50 to 70 rods a day AT ACTUAL COST OF WIRE Horse-high, Bull-strong, Pig and Chicken-tight. Wire at Wholesale Prices. Catalogue Free. Kitselman Bros. Box 172 Muncie, Ind.

PAGE
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ON WINTRY DAYS

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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Geauga Co., 30 miles east of Cleveland. Dairying and general farming the occupations. Corn, 30c. per basket; potatoes, 50c. per bu.; apples, $1 per bbl.; butter, 25c. per lb.; eggs, 30c. per doz.; milk, $1.20 per cwt. at cheese factory; shippers to Cleveland get $1.40 per 95-lb. can; fresh cows, $40 to $65 each. Silo men had terrible times filling silos this fall, on account of the very wet weather, it requiring four horses to draw a small load in many cases. Those that filled last had good weather. As there has been so little rain since, the wheat does not look good. A week of cold weather without any snow has injured it still more, the thermometer going as low as 16 degrees. Wheat was a good crop this year; oats a medium crop; hay was light; potatoes, 50 to 100 bushels per acre; corn was a good crop, but only about 40 per cent. husked yet, and a great many shocks are down so the fodder will be spoiled. This county has sixteen townships, each one 5 miles square, and there is a Grange (Patrons of Husbandry) in every township. G. L. POOLE.
R 1, Hiram, O., Nov 30, 1903.

Located in Sonoma Co., 11 miles north of Santa Rosa, the county seat. We are experiencing some nice little showers, which are bringing on the grass in good shape; stockmen are jubilant on account of the pasture starting so early, which makes a great saving on dry feed, which is very high at the present time. The fruit season is all finished and all fruit saved from the early rains and everybody delighted with a fine and prosperous summer just past. Farmers busy plowing and seeding for another year. There will be a very large acreage of grapes set out the coming year. Eggs, 35 to 40c.; chickens, $4.50 to $7 per doz.; cattle, 6c.; hogs, 6c. per lb.; wheat, oats and barley, $1.50 per cwt.; hay, $12 to $16 per ton; butter, 25 to 30c. per lb. GEO. H. CHADD.
Windsor, Cal., Nov. 26, 1903.

This has been an excellent fall for gathering mast; all farmers are through gathering. Crops short on account of drought; corn two-thirds crop; cotton half crop; peas about 90 per cent.; potatoes, second crop, 60 per cent. Corn, $2.50 per bbl.; cotton, $3.75 per cwt. in seed; wheat, $1 per bu.; hogs, $6; beef cattle, $5 per cwt.; horses, $80 to $150 each; mules same; land reasonable. Fine water; good, healthful country. Labor cheap; school teachers, $25 to $40 per month. School system improving. W. C. CROOK.
Middle Fork, Tenn., Nov. 28, 1903.

Weather rainy for a few days, now snow on the ground; sleighing, but not very good. Fall work nearly done. Wood cutting on hand. Stock looking well and hogs good price. Corn not 50 per cent. of a crop. Corn, 60c.; oats, 40c.; barley, 60 to 75c.; potatoes, 50c.; onions, 75c. per bu.; apples a big crop; butter, 25c.; chickens, 9c.; turkeys, 14c. per lb.; eggs, 28c. per doz. Help scarce. Good churches, schools and rural delivery. Telephones in most places. Health good generally. Success to The Practical Farmer and all its readers. MRS. A. L. BOARDMAN.
R 2, Salamanca, N. Y., Nov. 30, 1903.

Located in Osceola Co., in the central part of the southern peninsula. This part of the State was lumbered off but is now rapidly recovering, and there are now many fine farms. Horses, cattle and sheep do well. Crops are hay, $8 per ton; wheat, 80c.; oats, 35c.; rye, 50c.; peas, 50c. per bu.; ear corn, 25c. per basket; potatoes, 42 and 35c. per bu. This is in the heart of the potato country. F. D. BARBER.
Sears, Mich., Nov. 28, 1903.

Wheat, corn, oats, rye, sweet and Irish potatoes grow here. Wheat half a crop for last two years; corn good this year, especially upland corn. Very fair crop of oats; sweet potatoes very good; growing them is a profitable industry, which is lately being practiced in this section. They grow to perfection in rich sandy loam. All kinds of fruit trees thrive well here; blackberries and strawberries grow wild. Farmers are about through with outdoor work except sowing grain. Eggs, 20c. per doz.; chickens, 7c.; butter, 15c. per lb. Farm help very scarce. Located in Western North Carolina, 7 miles from Newton, the county seat. Best wishes to The Practical Farmer. K. YODER.
R 1, Hickory, N. C., Nov. 30, 1903.

Located in the central part of Wayne Co., 10 miles from Fairfield, 4¼ miles from the nearest town. Have had cool summer, with moderate rainfall. Fine, dry fall. Red top and apples the principal money crops of this section. Red top a good crop and high prices; apples almost total failure, owing to late frosts; corn a good crop, large per cent. of it shredded; peas fair, yielding from 5 to 15 bushels per acre. Wages, men, $1 to $1.25 per day in summer, 75c. in winter; girls, $1 to $2 per week; school teachers, $25 to $60 per month. Live stock and grain prices as follows: Horses, $50 to $125 each; cattle, 2 to 4c.; hogs, 3½c.; turkeys, 15c.; chickens, 9c.; butter, 15c. per lb.; eggs, 33c. per doz.; apples, $1; corn, 35c.; peas, $1; potatoes, Irish, 75c.; sweet, 75c. per bu.; land sells from $20 to $60 per acre, according to location, fertility and improvements. D. F. STROLE.
Cisne, Ill., Nov. 28, 1903.

Location, southeastern suburb of Los Angeles City; population about 135,000. Beautiful weather. Occupation in this section is market gardening. Eggs, fresh ranch, 42 to 45c. per doz. by the case; fancy creamery butter, 65c. per 2 lbs.; cheese, 16 to 18c. per lb.; onions, $1.50 to $1.60; potatoes, $1.50 to $1.60; sweet potatoes, $1.40 to $1.50 per cwt.; green onions, 50c. per doz.; beans, 5 to 6½c. per lb.; beets, 60 to 70c. per sack; cauliflower, 50 to 60c.; celery, 50c. per doz.; chillies, green, 3½c.; Bell peppers, 4c. per lb.; cucumbers, 50c. per box; carrots, 60 to 70c.; cabbage, 65 to 70c. per sack; egg plant, 5 to 6½c. per lb.; lettuce, 25c.; radishes, 15c.; spinach, 25c. per doz.; peas, 6 to 6½c. per lb.; summer squash, 40 to 45c. per box; Hubbard, 2c. per lb.; strawberries, $1.75; blackberries, $1.40 per 15 baskets. ALFRED LEMON.
R 2, Los Angeles, Cal., Nov. 27, 1903.

Located in Central Nebraska, on B. & M. R. R. Very nice fall, with pleasant weather since the cold spell; 4 degrees below zero the 17th of November. Farming, stock raising and dairying the chief industries. Dairying and hogs the farmers' standby. Farmers rather behind with fall work, with corn husking well under way, making 20 to 35 bushels per acre; late planted damaged by frost; wheat made 8 to 20; rye, 8 to 25; oats, 20 to 50; barley, 35 to 50 bu. per acre; potatoes light. Prices: Horses, $60 to $125; cows, $20 to $35 each; hogs, $4 per cwt.; prairie hay, $5 per ton; wheat, 50c.; rye, 31c.; barley, 25c.; oats, 21c.; potatoes, 50c. per bu.; eggs, 20c. per doz.; butter, 15c.; cream, 18½c. per lb. Farmers much in need of The Practical Farmer. E. S. YODER.
Litchfield, Neb., Nov. 28, 1903.

Located in Lamoille Valley, 24 miles north of Montpelier, the capital of Vermont. Very dry fall but fine weather for doing fall work. Crops good except corn; potatoes the best for years; a good many carloads sold from fields at 35c. per bu.; a good many are in the farmers' hands awaiting higher prices this winter; cold the past few days, average temperature 10 degrees above zero. Fair sleighing. A large flock of wild geese went over here for the South yesterday, and one the day before, rather late for them. Hay is scarce at $12 to $15 per ton. Stock plenty and no sale except to car; stock cattle and bulls, ¾ to 1c.; beef, 1½ to 2c.; hogs, 4 to 4½c., live weight; turkeys, 20c.; chickens, 15c. per lb., dressed; eggs, 28c. per doz.; butter, 19 to 23c. per lb.; corn meal, $1.15; bran, $1.05; cotton seed, $1.45 per cwt.; potatoes, 50c. per bu.; farm help scarce and high, $25 per month and board for good help; house help, $3 per week and board. CHAS. J. MOORE.
R 2, Morrisville, Vt., Nov. 30, 1903.

Located on the O. & W. Ry., 99 miles from New York. Have had a good summer and fall. Weather very cold at present. Principal crops are corn, oats, hay and potatoes. Prices: Milk, Oct. $1.45, Nov. $1.55, Dec. $1.70, Jan. $1.70, Feb. $1.55, Mar. $1.45; is sold on 6-month contract to Bordens; eggs, 35c. per doz.; potatoes, 60c. per bu.; bran, $20; corn meal, $24; hominy, $23; mill feed, $23 per ton; cows, $45 to $50; horses, $50 to $200 per head; hogs, 8c. per lb., dressed; land, from $15 to $50 per acre; butter, 25c. per lb.; hired help, $25 per month with board and washing. JOHN OLMSTED.
Youngs, N. Y., Nov. 30, 1903.

Located in Marion Co., 3 miles from Micanopy (Alachua Co.). Weather very dry; no rain for two months; no cold yet. Farmers very well up with their work. We raise truck for Northern markets, spring and fall; now shipping beans and peas, which are selling for from $2.50 to $5 per bu. basket. Good land, schools and churches; climate healthy. Fall crop poor; too dry; spring crops good. Prices of farm products: Corn, 75c.; oats, 60c.; sweet potatoes, 50c. per bu.; cotton, 5c.; pork, 6c. per lb.; eggs, 25c. per doz. Success to The Practical Farmer and good work it is doing. W. R. DREHER.
Micanopy, Fla., Nov. 28, 1903.

We have a farm in the central part of Lexington county, about 6 miles from the west side of Congaree River, and about the central part of South Carolina, in a good agricultural country, with the best of markets at New Brookland and Columbia, a double market, which are also thriving manufacturing cities. We had a drought in July, which cut the corn crop to about half a crop and cotton the same. The crop is now all harvested. Potatoes a good yield. The money crop is principally vegetables, with some turpentine, although the timber is about all worked and sawed. Farmers late with fall work on account of late fall. People enjoying good health. Mail unhandy, need free delivery. Prices good; cotton, 11c. per lb.; corn, 80c.; cow peas, 50c.; potatoes, 60c. per bu.; chickens, from 25 to 60c. per head; farm help scarce and high, from 60c. to $1 per day. MARSHALL ROBB.
New Brookland, S. C., Nov. 28, 1903.

Located 39 miles southwest of St. Paul, on the M. St. L. and C. St. P. & M. R. Rs. Weather in summer delightful; in winter quite severe. People are prepared for the severe weather in winter. Crops are, winter wheat 35 bu.; spring wheat, 18 to 25 bu.; oats, 60 to 75 bu.; corn, 40 to 75 bu.; potatoes, 50 to 200 bu.; barley, 65 bu.; rye, 20 to 32 bu. per acre. Apples and berries were a good crop. Prices: Wheat, 69c.; oats, 31c.; corn, 35c.; barley, 42c.; potatoes, 70c.; apples, $1 per bu.; strawberries, 10c.; raspberries, 15c. per box; currants and gooseberries, 5c. per quart; grapes, 3c. per lb.; horses are from $20 to $200 each, according to quality; beef cattle, 3½ to 4c. on foot; stockers and feeders, 2 to 3c. per lb.; veal calves, 4½c. per lb.; cows, $20 to $40 each; sheep, extra fat, 4c.; feeders, 3c.; chickens, 6c.; turkeys and geese, 7c. per lb.; eggs, 23c. per doz.; creamery butter, 25c. per lb. Crops are well taken care of. Farm help scarce; wages paid for season (8 months) $30 per month and board. Fuel is high. Times are good. The Practical Farmer is a good instructive paper. J. O. Q. CRAGIN.
Jordan, Minn., Nov. 28, 1903.

17,000 subscriptions expire with our December 26th number and will be cut off the list at that date if not renewed. Renewal subscriptions must be sent before that date if you want the January 2nd number.

ON THE FARM.

HOW NATURE PROVIDES FOR US.

The most independent man on earth is the farmer, for he makes the earth yield him almost everything needed for life. He knows that as he sows so will he reap. He usually keeps strong and healthy from constant strife with nature —in sunshine and in pure air. At sundown, when work is done, he finds most refreshing sleep in bed, such as only a tired man knows. In the same way that the earth yields food for man, so does it provide remedies for human ills. Thousands of households throughout the farming districts of the United States know the value of Dr. Pierce's Golden Medical Discovery. It is nature's most valuable and health-giving agent—made without the use of alcohol. It contains roots, herbs and barks, and is the concentration of nature's vitality as found in the fields and woods. This remedy has a history which speaks well for it because it was given to the public by Dr. R. V. Pierce, founder of the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., nearly forty years ago, and has since been sold by druggists in ever increasing quantities. Some medicines, tonics or compounds, enjoy a large sale for a few years, then disappear from the public attention, but Doctor Pierce's Golden Medical Discovery has proved such a reliable blood remedy and tonic that it often enjoys the confidence of several generations in a family, and its increased sales year by year coming from the recommendations of those who have tried it, prove its lasting merit, so that every bottle bears the stamp of public approval. Every other well-known blood-maker and tonic for the stomach that we know of contains alcohol, but Dr. Pierce guarantees that no alcohol is contained in his "Medical Discovery." This remedy works in the natural way, for it corrects the irregularities of the stomach by promoting digestion and assimilation. The blood is cleansed and fed on proper nourishment, the nerves get rich red blood, and in consequence nervous troubles disappear, for they are often due to improper nourishment. Neuralgia is the cry of the starved nerves for food. Feed the nerves on pure rich blood and nervous symptoms will disappear. The result of indigestion and dyspepsia is that the person's blood becomes thin and watery because it is not fed on that nourishment which it should take from the food, and the person becomes nervous and sleepless. All such persons we advise taking the "Golden Medical Discovery" three times a day. Modern science is teaching us that those things which appeal to the appetite the most are the most easily digested. Not all digestions are alike, and "what is one man's meat is another man's poison." Any food which you crave and long for will be easily digested if you do not think about it and do not permit others to dissuade you from it. On the appearance of any food which you have a longing for the secretion of saliva and the gastric juices will be increased and the *stomach will take care of the rest*. Don't make meals of bran-bread or some innutritious "mush," but take some highly nutritious food such as rare beef, and give the digestive apparatus something to work upon. The stomach becomes weakened if given no exercise, just as the muscles of the other parts of the body. For those suffering from indigestion, Dr. Pierce's "Medical Discovery" gives a healthy tone to the stomach, liver, blood and heart. Drink plenty of water between meals—hot water on arising in the morning, and three doses of "Discovery" per day, and we guarantee that you will be able to eat anything you like after a month or two. At the same time, you are putting your body in such a healthful condition that you are capable of warding off the attack of any germ disease. With proper food for the stomach, pure air for the lungs, exercise and cleanliness at all times, one gets proper nourishment for nerves, lungs, heart and liver, and by stimulating the organs into activity with Dr. Pierce's Golden Medical Discovery when necessary, you can *laugh at disease*.

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Mrs. Robt. Lambden, of Havana, N. Dak., Box 94, writes: "No one can tell how much I suffered with my leg. It was so bad for a year I could hardly walk around to do my work, and at times couldn't even bear the weight of a sheet over me at night, but your medicines cured me. My leg is quite well again. After I had taken two bottles of Dr. Pierce's Golden Medical Discovery, I began to feel very different, and kept getting better. Took nine bottles of 'Golden Medical Discovery,' also used Dr. Pierce's All-Healing Salve, and now my leg is as well as it ever was. Am willing every one should know what good your medicines have done, and would advise any one suffering as I did to try the same treatment. I think and feel sure it will help them.

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Do You Want Our Farming?

Do You Work Because You Must, or Because You Love to?

It is not uncommon to get a letter from some farmer who speaks of his life as being one of unceasing toil, of never ending grind. Possibly he puts it stronger and calls it slavish work. Attention has been called to this point occasionally, but not very fully. There is a certain remedy for all this. Farmers generally have more time to read and think in the winter. Let us look into this matter a little more closely now, with a view of making the work less grinding and burdensome in the future. There are different reasons for working. A great many people work because they must. Starvation stares them in the face if they do not. Where this is the only reason for work all labor will be considered burdensome; as something they would not do if they were not obliged to; as grinding and almost slavish. Let us follow some of these same people when they take recreation that is just to their liking. They will tramp all day over hill and dale, through woods and swamps, perhaps, carrying a gun and game, if they get any, and enjoy it hugely. Is the task any lighter than the "grinding" farm work? The boys will play ball until they are so tired they can hardly stand, but they never complain. They do not enjoy play simply because there is no hard work about it, because it is easy. The hardest day's work of the year, perhaps, may be put in going to a picnic, or a fair, but there is nothing burdensome about it. What makes the difference in these cases? Well, to a certain extent it is because it is a change, but the great reason is that they are interested in what they are doing. They do it because they like to. They forget all about the hard work connected with it then. Work becomes play under these circumstances. Play is simply work that one likes. It is such people, whose hearts are in their work, who work because they like to, that gradually bring up agriculture, or any other calling they may follow. Those who work because they must, just about hold their own, perhaps. They keep the world alive, but rarely do anything to improve it.

Geo. H. Martin, supervisor of Boston public schools, says: "Necessity does its work haltingly. Duty does its work resolutely. Interest does its work eagerly. Necessity does its work skimpingly. Duty does its work honestly. Interest does its work generously." There you have it. Those who work because they must, do it haltingly and skimpingly, and too often think their lives are full of burdensome toil. The conscientious person, who thinks it is his or her duty to labor, does a little better. He won't shirk. He is honest, but after all he belongs to the first class, practically, of those who work because they must. What he must do he will do without shirking, that is all. His heart is not in his work. It is the person who is interested in what he is doing, who loves his work, who forgets all about hours and toil and hardships in his desire to accomplish something. He spends his strength generously, and is eager to do it, and still he enjoys it as much as mere toilers do their favorite recreation, or boys their play. We might mention those who work to get ahead in the world, so they may enjoy their full share of its comforts, so they may have things as good as anybody, or so they can accumulate considerable property; but they really belong to the latter class. They are interested in their work, or at least work hard and persistently, for a purpose, a laudable one, too, within bounds. But don't you think the man stands a little higher who works because he loves to accomplish something, to conquer, for the good of the world and humanity generally, his family and himself included?

The writer once persuaded a friend to do a little tile draining, where it was most needed on his farm, and to watch and see that it was done rightly, from beginning to end. He didn't want to go near a ditch, thought the work beneath him, but finally did a little of this work, largely on account of my persistent urging. But when he saw the surplus water running away, and the land that before was the wettest, the first to be ready to plow in the spring, and the most productive, he became deeply interested. Then no day was too wet, or too long, or too cold for him to be down in the ditches, if the ground was not actually frozen hard. In a few years he had his farm well drained. He left the ranks of those who work because they must, without realizing it, probably, and became a man whose heart was in improving his farm to the utmost. He has prospered and never thinks about the hard work. In fact it wasn't work for him then. It became play because he was deeply interested. He was conquering. There is more fun in getting the upper hand of a waste place than in beating at football, and far more profit, with the added advantage that your beating hasn't hurt anyone else, or made them feel badly. Hundreds of our readers have become interested in doing more work in tillage. Instead of dragging a field once or twice, merely because they must, or from a sense of duty, weary and thinking the farmer's life a hard one, they have eagerly walked or rode over the land six or eight times. This because they comprehended the fact that there was an abundance of plant food elements in the soil, and every time over they were compelling nature to give up more to them. This made the work play. It is the old inherited spirit of conquest that makes our soldiers so good to fight. To the man who once becomes deeply interested in this line of tillage the work will be a recreation. He will be anxious all winter for spring to come so he can go at it again and do still better. The "grind" has all gone out of the work. A man gets some heifer calves from a thoroughly good, pure bred sire and his best common cows. He raises them properly, so they never become fat, but just grow steadily. Then he cares for them as he should and gets twice as much milk from a cow as formerly. If he likes his business, and there is any get up in him, he will enjoy the care of these improved animals. It will be no hardship to milk them. He will stop saying or thinking that dairying does not pay. And he will stop all cracks in his stable and study to feed and care for his cows better and better and so work his way up. His heart is in his work. (If it isn't he might about as well have the old scrub cows.) He isn't milking any longer because he must. He is on the road to success as the result. In general, the same is true no matter what you are doing. Get interested in some improved methods so the work may become as play, as Van Dreser of New York did with his chickens, Henry of Minnesota with his pigs, or Wing of Ohio with his alfalfa. My dear friends, are you deeply interested in what you are doing? Do you love your work? Is it play to you? Or do you simply work because you must to live and keep your family together? As you may honestly answer this question to yourself, so will your real success in life be. And surely you will believe that Terry says these things only with the earnest desire to be helpful to you all. And allow him to say to the young men who read this, decide what you want to do that is honorable and that will be helpful to the world, and then go at it with all your heart and strength. Not because you must. Not because it is your duty, but because you love to and you are going to make success come. No matter whether you are well paid or not, don't count the hours or think any trouble too great. Keep your eyes fixed on the goal, success. This will make the work seem as play. Such young men are wanted. There is room for them anywhere and a chance to rise. Such men make their mark in the world. Such men uplift agriculture or any calling they follow.

A Busy Chimney Flue.—An Indoor Earth Closet. — There are some ideas that are commonly believed which are not always correct. If the writer wants to do a thing, and people tell him he cannot, he doesn't think of giving the matter up on that account. Our chimney flues were made 8x8 inches, inside measure, when the house was built. This was consideded abundantly large to take the smoke from any stove and furnish a good draught. It did this all right. And one flue took the smoke from two stoves without any trouble. When we thought of putting in a furnace I wrote the manufacturers, who invite correspondence of this kind, and asked them if one of these flues would answer for as large a furnace as we wanted to put in. They were told that we would burn hard coal and wood, and also asked if it would do to have any other opening into the flue. I told them we wanted to know about these points for a certainty and were willing to pay for expert knowledge. The reply was, that while an 8x8-inch flue might answer, they would not recommend trying to use one that was less than 8x12, for so large a furnace, and there must be no other use made of the same flue; there must be no other opening into it. Other furnace men had told me the same thing; but after a good deal of study I failed to believe it. It would be a serious job to take the chimney all out and lay it over, and I was satisfied that there was no earthly need of it. The furnace was put in. The men who did the job told me yesterday that we had a heating capacity about double what people generally had. The cost is a few dollars greater to start with, but there is economy in the end, and better health. We used one of the 8x8-inch flues. There are two of these in the main chimney, side by side. The grate smoke passes up one of them. And more, I put in an 8x-10-inch side wall register at the floor, upstairs, into this same furnace flue. But while the iron grating of this register measures 8x10, of course the solid stream of air that can actually pass through it would hardly be 6x8 inches. It took some courage to put in this ventilating register, but I felt sure I was right. It has been wide open constantly for several weeks, now, with the furnace fire burning. At first I thought the register must be closed when we were starting a fire in the furnace, of course, but even that has not been found necessary at all. The stream of air for ventilation is flowing out through the register and up the flue, with a strong current, every second, night and day, certainly enough to more than half fill the flue. And that is not all. We wanted an earth closet somewhere in the house for winter use. So I bought a seat about 22 inches square, in the city. It has two lids, the larger one nearly the whole size, and hinged so it can be lifted up to put a pail in. Any carpenter can make one. Four boards about 14 inches wide were nailed together, forming a box, without top or bottom, to fasten the seat on. A large galvanized iron pail is used that lacks an inch of coming up to the bottom of the lower lid. This gives space for the air to pass over the pail. We have this

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closet in one room of the cellar, which is light and always comfortably warm. It stands by the chimney and a tin pipe goes through a hole in the top, back of the lids, and then up and turns into the chimney. And it goes into the same furnace flue, too! We used a 1¼-inch pipe. A larger one would be better, where there is draught to spare. It should be soldered at every joint and be made to fit closely where it enters the chimney and seat top. Then the box fits the floor pretty closely and the lids shut tightly. But, of course, some air gets in through these places. We want it to. The draught up the pipe takes this much air out readily and all odor with it, when the lids are shut down. Notice this last remark particularly. No air or odor can come from the pail into the room when the lids are closed. During the few seconds when they are necessarily open a little will come into the room. The draught of furnace quickly takes care of this. We are using now sifted hard coal ashes. A pail of this, with a little scoop in it, stands on a box close by. Dry muck, dust or soil are much better. We will get in a supply next summer. The ashes do not absorb like soil. When the pail gets about two-thirds full it is taken out and emptied on a near-by grass field, or in the manure shed. The contents will never be frozen, as in an out-of-door closet. Of course it cannot be used only when there is a fire in the furnace, or grate, to make a draught to take the odor out of the cellar. We do not want to use it except in cold weather. I have seen a similar arrangement working perfectly in the home of Supt. Gregg, of Minnesota, in a bed room opening out of their living rooms. The door was open and this bed room was warm. The pipe in this case was much larger and it went into a stove flue. During the summer season we use the out of door earth closet, a full description of which, with pictures, is given in "Our Farming." Now please notice that all of this is going on with entire success through that 8x8-inch chimney flue. We are making it do all that we wanted it to. The smoke, or gas, from a large furnace is carried up (not soft coal), a constant stream of air from the floor upstairs is sent up, and then the odor from the earth closet in the cellar. Nothing can hinder the working only to have the outdoor air become within 3 or 4 degrees of as warm as the column of air passing up the chimney flue. In such a case it might become necessary to close the register at the floor upstairs. But practically this will not be likely to happen when there is a fire in the furnace; probably never will. But now, our chimney flues are perpendicular and plastered smoothly inside. This helps make the draught good. Several friends will find answers to their questions in this article. One, for example, has an 8x12-inch flue for his furnace. He wants to put in a Franklin open grate stove, for ventilation and comfort, on his first floor, using the same flue. He has been told that it would not work. I cannot say that it would under all circumstances. But if I wanted to do this doubtless a way would be found. I am enjoying at this moment one of the most delightful improvements we have made, that accomplishes what folks told us couldn't be done, and it only cost 60 cents and a half day's work by myself. I will tell you about it sometime. I don't take much stock in "can't."

T. B. Terry.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Manufacturing Combined Nitrogen.—M. Edmon, Dedham, Mass., calls attention to the experiments being made in Germany at the Darmstadt Station, in getting combined nitrogen through the use of the electric furnace. It is in combination with calcium carbonate, and is called cyanimid of calcium. "When pure, the cyanimid appears as white crystals soluble in water. It then contains 35 per cent. of nitrogen." Our correspondent states that a company has been formed in Berlin to manufacture the new product in mixture with lime carbonate containing 15 to 25 per cent. of nitrogen, and asks, "Is it likely that by this new discovery we shall be able to obtain nitrogen to use as a fertilizer in a cheaper form than heretofore in sodium nitrate?" This, of course, we are unable to answer. It all depends on the cost of the proposed manufacture, and we very much doubt that the product can be made to compete with the natural product of sodium nitrate, if it contains no larger percentage of nitrogen than the natural product.

A Mushroom Scheme.—A correspondent in North Carolina writes: "I enclose you a circular from the ——— Company, of New York, recommending the mushroom industry. Please give me your opinion as to such an industry here, and how they may be grown profitably." The circular enclosed has no responsible name attached, and we are unable to say whether the "Company" is responsible or not. The circular tells of great profits that can be made in growing mushrooms, and says that the "Company" will contract to buy all that are grown from spawn furnished by them, at "currant" prices. We suppose they intended current prices. But they say, with apparent fairness, that you need not buy spawn from them, but can get it anywhere, and they will buy the crop if a sample of the spawn is sent to them for inspection to see that it is all right. Otherwise they will not contract for the crop. Now here is the "nigger in the woodpile." They offer spawn at $1 a box, and do not say what the box weighs, but do say that the dollar's worth will spawn a bed 3x5 feet. This will be pretty expensive spawning, for you can spawn more bed than that with twenty cents' worth of the ordinary brick spawn. Doubtless if you get spawn elsewhere they will tell you that it is not good and you must get theirs. The fact is that no one can tell anything about the quality of the spawn until it is tried. The whole thing looks like a scheme to sell spawn for a big price to inexperienced men, who will utterly fail to grow any crop, and, of course, the sellers of the spawn will have none to pay for. There is no necessity for contracting with people who are afraid or ashamed to put their names on their circulars, for mushrooms are a staple article on the market, and will always sell if in good condition. But the chances are that an inexperienced man will fail in the first attempt to grow mushrooms. It is easy enough after you get the hang of it, but little omissions often spoil the crop. Then the circular says that they can be grown in a room in the house, or in the cellar, and will make the cellar more wholesome; all of which is pure nonsense, for no one wants a fermenting bed of compost in his house, and it will not be pleasant in a cellar under a dwelling, but should be in some frost-proof building outside. You can get plenty of good spawn from the leading seedsmen for 25 cents a pound by the single pound, and a good deal less in quantity. There is little chance for making a profit in growing mushrooms in North Carolina to ship North. They must be grown near the market and where an abundant supply of fresh horse manure can be had at all times. Of course you can grow some for home use in a cellar, but for commercial purposes you will want a structure specially built for them. If you will write to the Secretary of Agriculture, Washington, D. C., and ask for a copy of Farmers' Bulletin No. 53, "How to Grow Mushrooms," it will tell you all about it, and then if you get a crop at the first effort we will be surprised. Mushrooms are quite profitable near a large market, when grown by men who are skilled in the culture. But our advice is to let severely alone any parties who offer to furnish seed or stock of any kind and want to get you to contract to sell them the crop. Never heard of any such parties keeping a contract.

Raising Water for Irrigation.—L. B. Stockton, Mt. Vernon, Ore.—"I have just bought a small farm, and have no desirable place for building except on a high piece of ground of three and a half acres, where I cannot get water to irrigate with except with power. As fruit does well here, and generally brings good prices, and such land will make five tons of alfalfa hay per acre, which sells for $5 to $8 per ton, will it pay me to put in a gasoline engine? If so, what size would be needed to raise the water 60 feet? I will want to use it also for sawing wood." A 2-horse power engine is being successfully used by a neighbor here for elevating water fully that high for his dwelling purposes, and he considers it a cheap means for the purpose. For your use we would suggest one at least double that power. Whether it will pay to elevate water for the irrigation of so small a piece of land where hay is worth only $5 to $8 per ton, is a question that can only be solved by experiment. It may pay for the fruit, but will be rather expensive, we assume, for hay alone. Still, if you have plenty of cheap fuel it may be found to pay, for at the same time you could elevate the water for use in the dwelling and for your garden, and here, where we have an abundant rainfall, it pays to elevate water for the house alone. In fact, the unequal distribution of rainfall here at times will make some irrigation very desirable, and we are contemplating something of the sort for our garden. In an open country here near the sea the windmill is the most reliable and cheapest power for pumping, but here in the hills it is not very reliable.

Fertilizer for Meadow.—J. M. Kutz, Fritztown, Pa.—"What should I use as a fertilizer for my meadow, and when should I apply it? I am a new hand at farming." Your question shows this last fact very plainly. You do not say anything about the character of the soil, and it is impossible for us to know its condition and needs. But there is one thing that you can use that usually pays well on grass anywhere. This is nitrate of soda. Sow 100 pounds per acre of nitrate of soda on the grass when growth first starts in the spring. Apply it when the grass is perfectly dry to avoid danger of scalding. We think that you will find this to pay well. Then if the grass is to be kept for mowing year after year a dressing annually of 300 pounds per acre of raw bone meal will be found useful. If the soil is sandy it may pay to add to this 50 pounds per acre of muriate of potash. Or for the coming spring try a mixture of the bone and potash on part and the nitrate on another part, and note the results. Not only the actual results, but the comparative cost of the two applications.

Alfalfa in Kentucky.—In reply to a query about growing alfalfa in Kentucky, May Goff, Bourbon Co., Ky., writes that in a trip the past summer in the edge of one of the mountain countries she saw a piece of bottom land on which there was a fine growth of alfalfa which had then been twice cut and was ready for the third cutting the last of August, and is satisfied that the crop will do well in many places in that State.

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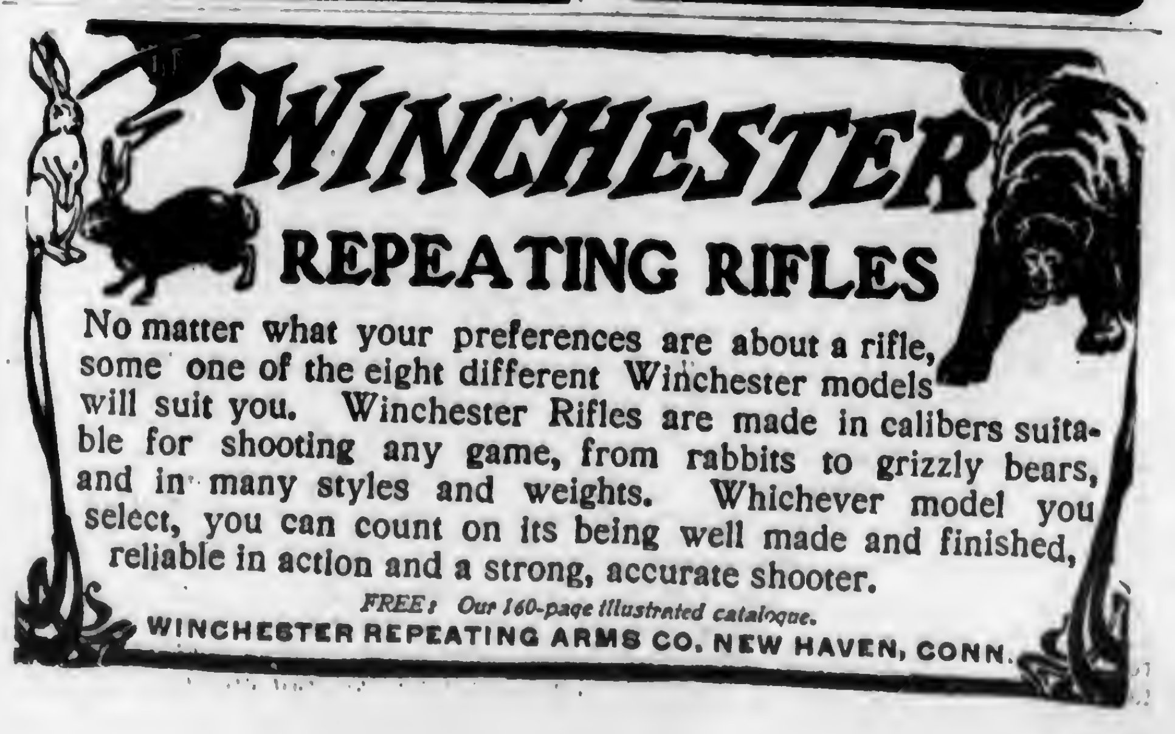

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Book on Pecan Culture.—A. J. Stutsman, Bristol, Ind.—"Can you inform me of any reliable book on pecan culture?" Write to the Sec'y of Agriculture and ask for a copy of circular No. 1, of the Division of Pomology, on Nut Culture.

Cut or Shredded Stover.—J. B. Brubaker, Mt. Joy, Pa., whose contribution to the Pool No. 602 came a week too late to get in, asks which is the best way to use corn stover, cut or shredded? There is no question but that shredding is far better, as more of it is eaten. In fact, it is nearly all eaten, and whatever is left is in good shape for bedding. We expect to feed shredded fodder as soon as we may get short of pea vine hay, and, in fact, expect to use it to make the pea hay go further, for we consider the shredded stover as good as any timothy hay for horses.

Varieties of Peas and Fruits.—J. W. Phillips, Petersburg, Va.—"What varieties of peas are best for sandy land? What varieties of peaches, cherries, pears and quinces to plant here? Have an orchard of 500 apples. What would be good treatment for the land around them? It is now in cultivation, but I want to sow it in orchard grass. Would lime be good for the trees?" In your section any of the cow peas will thrive. The Wonderful will give the heaviest crop of hay, and the Large Black and the Clay are both good. Of peaches I would plant Greensboro, Alexander, Mountain Rose, Early York, Carman, Lady Ingold, Elberta and Ringgold Heath. The only cherries for your section are the sour cherries, and of these the Early Richmond and Montmorency will do. Of pears, if well taken care of, and the blight regularly cut out you can grow Bartlett, Seckel, Anjou and Kiefer, and can get more money from the Kiefer than all the rest. Of quinces plant Champion and Chinese. If your apple trees are well developed and in bearing it would do to seed the orchard down to grass, provided the grass is grown purely for the trees and not to make hay or pasture of. If the grass is cut and left on the ground for a mulch several times during the season it will be the best treatment you can give the trees if you give them a dressing of acid phosphate and potash annually. If you sow the grass for hay and neglect to feed the soil you will get few apples. You are not in the best apple growing section at best, and the trees will need careful attention, and the land should be devoted to apples and nothing else. If the trees are still young and not bearing we would keep the land in cultivation with some early hoed crop like potatoes, and follow them with crimson clover as a winter cover, to be plowed under the next spring. Growth is what we want in a young tree, and when we get it into the proper shape we want to check too rapid a growth to throw the trees into fruiting. Then we want to preserve the moisture conditions in the ground and feed the trees well.

Corduroy Roads. — Henry Plummer, Beltrami Co., Minn., wants The Practical Farmer to tell something that will be helpful up where he lives. "If The Practical Farmer can tell a man how to make his fence posts last, why not tell him where to get the posts? In this part of Minnesota there is much timber fit for posts and telegraph poles. Can you tell us how to make posts and how to find sale for them? How to clear land and how to make a corduroy road, and what it costs where timber is thick, and what it costs to ditch under such conditions? What would you do if you were a homesteader in Beltrami Co., Minn., and had a claim with 400,000 feet of pine, spruce and tamarack and 80 acres of cedar large enough for 50-foot poles, with a rich clay soil, three and a half miles from a depot, with no roads and land slightly rolling but wet for roads, and a cold climate, with prices of produce high and sparse population? I have written to Washington and to the State University, and they know no more about making a corduroy road and what it costs than they do about eating hay." Well, if the Editor was compelled to live in that country (he did live in Minnesota over 40 years ago, when what is now Beltrami Co. was the vast northern wilderness, where only Indians and trappers ever penetrated) he would sell that timber as soon as possible and get out into civilization. Of course, to sell the timber you must have roads to haul it to the station. To build a corduroy road you want to lay a line of heavy poles along the centre of the proposed road and put them level with the surface. Then cut small poles the length you want the width of the road to be, and lay them closely across the centre logs, which are put there to prevent the small poles from sinking in the earth and to keep the centre of the road a little higher than the sides. Then cut a ditch on each side of the road and throw the earth on the road to raise it and to drain the road. Now, what such a road will cost in your section no one can tell you whose experience has been under other conditions. You can figure what the cutting of the timber will cost a great deal better than anyone elsewhere can. Telegraph poles should be cut as long as the timber will allow, and should be skinned at once and piled to season. There are many things that only experience on the spot will teach anyone. When you get that land cleared of timber The Practical Farmer will do all it can to help you in the cultivation and improvement of the soil, but cutting and milling timber is something out of the line of an agricultural paper.

Pastures and Wheat.—S. G. Hanson, Crofton, V. I., which we suppose means Vancouver Island, though our correspondent should have made his location more definite.—"Next spring I shall have 40 acres free from logs and suitable for pasture. What should I seed it with? Will vetch of any kind make a good permanent pasture for sheep or cows? Ten acres of new land are ready to plow and 13 acres 8 of which have been hay land and pasture for 7 or 8 years. Can I plow this 8-acre field in spring and seed to wheat and clover with any chance of a full crop, or should it have been plowed in the fall? If not wheat, then what? I am putting 5 acres to potatoes, some on early land. Are Early Rose as good as any? I must have 20 tons of hay. What would you advise sowing on the other 10 acres? Will oats and clover be as good as anything? What amount of land in potatoes will justify a digger and planter to be bought? Can you recommend a cheap digger? What amount of land in wheat justifies buying a drill and a binder?" If our friend is in the northwest corner as we suppose, he is in a climate with which we are entirely unfamiliar except from hearsay as a very rainy one. We would assume that any of the usual grasses will thrive there. Vetch will make a good pasture until spring and then during summer is gone. Some hairy vetch will help out the winter pasture if mixed with the grass, but we would seed the land heavily with tall meadow fescue, perennial rye grass and red top with some red clover. It would have been better to have broken the sod for the spring wheat in the fall so that it would get well settled by spring. But by breaking early and preparing well with the harrow you may get a fair crop of wheat and a good stand of clover, but oats will do better for you than wheat, we think. Early Rose potato is still good, but some of the newer ones will outyield it. We have found Eureka and Maule's Thoroughbred excellent. Early Ohio is a good potato and earlier than the Rose, but apt to be a poor cropper. Sow the remaining 10 acres in the oats and clover and they will give you as much feed as anything. The economy of a potato planter and digger will depend largely on the abundance and cheapness of labor. Our large growers in the South do not find them economical, but where labor is dear and scarce it will pay a man having 5 to 10 acres in potatoes to have a machine. We hardly think that one sowing less than 50 acres in wheat can afford to buy a drill and binder, too, if he can hire the drilling and harvesting done. The economy of these machines will also depend much on the price of labor.

Shucking Walnuts.—Dr. J. A. Bayard Kane, Philadelphia.—"In your paper of Nov. 28th one of your subscribers asks for a quicker method of shucking walnuts than by hand. I suggest that he use an old corn sheller, as I have found that this is a better, quicker and cleaner method than beating them out, which is what you advise."

Does your subscription to The Practical Farmer expire with the Dec. 26th number? If so, you must send your renewal subscription now in order to get the Jan. 2nd number. All subscriptions expiring Dec. 26th and not renewed will be cut off at that date.

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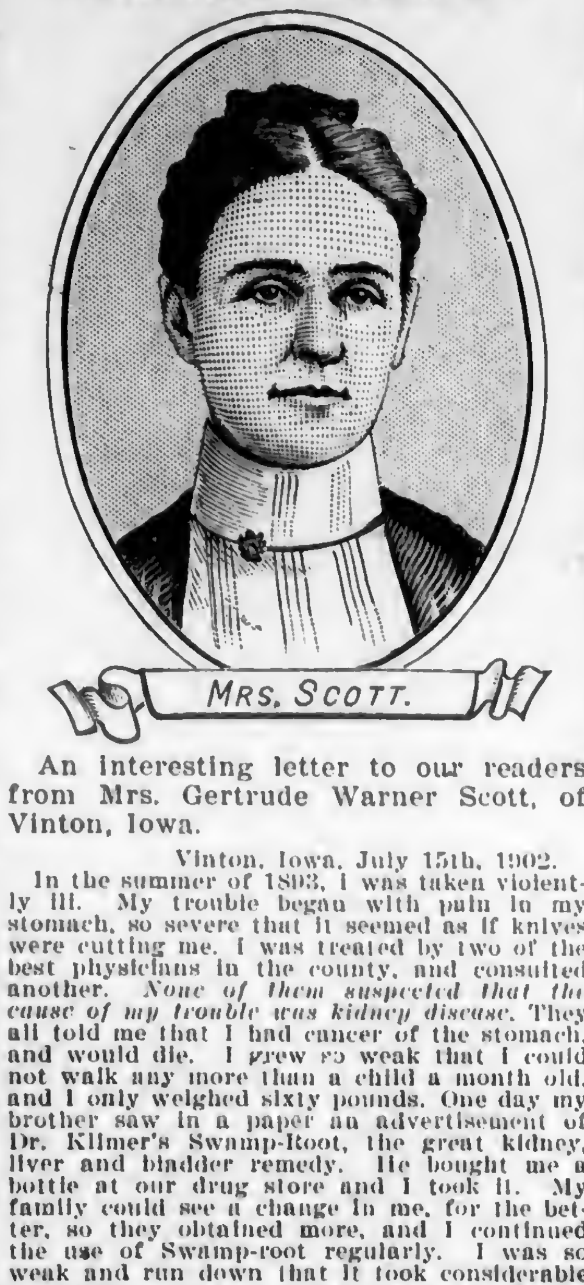

MRS. SCOTT.

An interesting letter to our readers from Mrs. Gertrude Warner Scott, of Vinton, Iowa.

Vinton, Iowa, July 15th, 1902.

In the summer of 1893, I was taken violently ill. My trouble began with pain in my stomach, so severe that it seemed as if knives were cutting me. I was treated by two of the best physicians in the county, and consulted another. *None of them suspected that the cause of my trouble was kidney disease.* They all told me that I had cancer of the stomach, and would die. I grew so weak that I could not walk any more than a child a month old, and I only weighed sixty pounds. One day my brother saw in a paper an advertisement of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy. He bought me a bottle at our drug store and I took it. My family could see a change in me, for the better, so they obtained more, and I continued the use of Swamp-root regularly. I was so weak and run down that it took considerable to build me up again. I am now well, thanks to Dr. Kilmer's Swamp-Root, and weigh 148 pounds, and am keeping house for my husband and brother, on a farm. Swamp-Root cured me after the doctors had failed to do me a particle of good. Gratefully yours,

Gertrude Warner Scott

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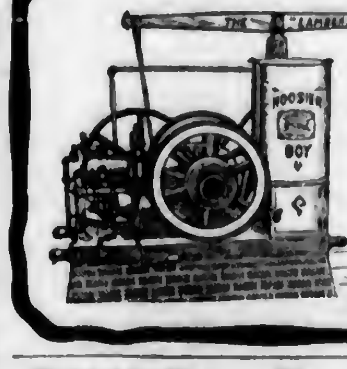

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Live Stock and Dairy.

Caring for the Dairy Cow

PROF. A. M. SOULE.

Food has a definite relation to the development and maintenance of a large flow of milk in the dairy cow. Treatment and general management are also factors that must not be overlooked. Conditions with regard to dairying have changed vastly in the past few years and the time is gone when a man could turn his cows out to browse on the roadside or in the old wood pastures and make a profit from them. He can no longer afford to have scrub animals in his herd or those whose standard of production is below a certain basis. For instance, many dairymen now find it necessary to establish a standard of at least 5,000 pounds of milk per annum and 300 pounds of butter. The basis of production will change with the class of dairying practiced. The man who sells milk may find it advisable to increase the flow to 6,000 pounds, whereas, the man who is interested in butter making may find it advisable to increase the butter yield to 350 or 400 pounds. With a more highly organized animal—an animal whose producing powers have been increased through careful breeding and selection and a better combination and adaptation of foodstuffs, it is necessary to secure better treatment and a uniform supply of suitable foods throughout the whole year if profitable returns are to be obtained from the herd.

The dairy cow is largely a creature of habit. She is an artificial machine. Certain traits, such as the power to give a large flow of milk and a high per cent. of fat, have been developed through careful breeding and feeding and their maintenance must be a matter of daily concern to the owner, or else they will lose in a short time what it has taken generations of careful breeding to develop and fix. These facts define the necessity of giving the cow uniform supplies of suitable foods at all times.

Some light may be thrown on the general care and treatment of the cow if a plan suitable for her best nourishment throughout the year is outlined. The first green food obtained in the spring will probably come from winter rye, which may be used as a soiling crop. It is very useful for this purpose, coming in before the pastures are ready and often when the supply of silage is exhausted. It is more succulent than the silage, hence larger quantities must be fed and the grain supply increased in order that the same amount of nutrients may be furnished to the animal. If this is not done there is a decided falling off in the flow of milk, which it will take a long time and great care to fully restore. The dairy animal is a very sensitive creature, and like all highly organized animals, the system is easily shocked, and one who has had any experience with nervous troubles knows full well how slight a change will affect the nerves and how long it will take them to fully recover their equilibrium. Hence a sudden change of food of a decidedly different nature should be made gradually. When the animal becomes used to rye it is best at first to feed it only once a day, say, in the morning and silage in the evening. The transition is thus made gradually, and if the meal ration is increased so as to provide about the same amount of nutrition the effect on the cow will not be marked as where a sudden change is made. Rye will not last very long, as it soon becomes old and hard, and as it contains a lot of crude fibre, is not readily digested. After it passes the pastures should be ready, especially if some fescue grass is seeded in the fall for that purpose. The fescue grass is nutritious, grows vigorously in the early spring and is well relished by the animals. Where the grass is very luxuriant it will probably not be necessary to feed such a large quantity of concentrates, but where it is short and scant a full supply of concentrates must be maintained. After the passing of the fescue grass the blue grass should be ready, or, further South, Bermuda. In the South the one will supplement the other; further North the blue grass can be relied on throughout a good part of the season. In the months of July, August and September, when it becomes somewhat short by reason of the summer drought or from close grazing, other supplemental crops must be available. In the South supplemental crops will not be necessary if blue grass and Bermuda grass pastures are provided in separate places, for the one will furnish the needed grazing through April, May and June and the latter will supply all that is needed through August, September and October. The blue grass will then have recovered itself and will furnish a good deal of grazing until Christmas, and in favorable seasons through a portion of the winter as well. For high-class dairy cows it is advisable to feed more or less concentrates all the time except for very short periods when the growth of grass is very vigorous. Animals which are required to perform such hard work as the dairy cow must have plentiful supplies of nutritious food, as it has no other source from which to draw the nutriment necessary for the production of such a rich, nourishing food as milk, and unless the cow is liberally supplied there is a falling off in the flow, which may never again reach the high level obtained through judicious feeding. It is very hard for some people to appreciate the importance of this matter. They often think it is a theoretical point and is made by those whom they are pleased to term scientists, but anyone who has had experience with dairy cows knows it is true. Any athlete who is trained to a fine point for certain events realizes it, for he knows that the minute he ceases to train the qualities of speed or strength which he has developed are likely to wane, and it may never again be possible for him to reach the perfection he once attained. The introduction of an example from another walk of life sometimes tends to make these points, which seem so far-fetched, clear and to bring them home with greater force. If through improper arrangement of pastures, or by reason of drought or other cause, supplemental foods become necessary, these may be supplied through a succession of grazing crops. In the early spring they might consist of winter sown crops, such as rye, followed by winter barley and winter oats. If vetches are grown with these crops they will add much to the richness and palatability of the food. Later would follow spring sown cereals, such as Canada peas, spring oats or corn sown broadcast or in drills, and after that may come sorghum alone or sorghum grown with cow peas, and then would follow soy beans and cow peas, and if the early and late maturing varieties of these crops are used, a succession of valuable soiling crops would be ready from early in the spring until late in the autumn. In the Eastern States this might cover a period of only three or four months, while in the South it might extend over a period of six to eight months. For winter feeding of dairy cows there is nothing better than silage. This is the food par excellence for these animals. It is a succulent food well stored with nutrients, and if properly preserved is sweet and palatable. It is also a food well adapted to the needs of an animal requiring to consume large quantities to produce freely, and it is a very healthful food, as it keeps the system cool and relaxed. Plenty of concentrates should be fed in conjunction with the silage. It is generally best to feed the cows twice a day. It is an advantage also to give them about five pounds of dry food when on silage, as they love to have something to pick over in between times. If a good straw stack is available for them to run to in the the middle of the day when turned out, it is as nice as anything they can have. True, straw is not a very nutritious food, but a highly nutritious food is not necessary. Hay is, of course, better, and clover hay, no matter what the variety, would be the ideal dry roughness to have. This will not prevent their enjoying and profiting by the straw stack.

Feed the silage liberally, though not to excess; 40 to 60 pounds will be sufficient, depending on the size of the cow, and, of course, individuality must be studied in the feeding of these animals. It sometimes happens that a cow weighing 800 pounds will give 7,000 to 8,000 pounds of milk, whereas, a cow weighing 1,200 pounds will not give more than 5,000 pounds, and the two animals must be fed according to their needs and their capacity for making profitable returns from the food fed. When silage is not available, corn stover or sorghum fodder and millet, clover or timothy hay are all useful adjuncts. It is always advisable to feed some hay where corn stover or sorghum and corn fodder and the principal rough foods are used. These coarse, rough foods had best be run through a cutting box and moistened with water and meal mixed thoroughly through them when placed in the mangers. The cattle will then eat them clean and it makes them more palatable, and palatability in feeding a dairy cow is a very important consideration. It is sometimes an advantage not only to cut either the fodder or the stover, but to cut the hay and mix the two together in about the proportions in which they would ordinarily be fed.

With regard to the concentrates to use for dairy cows, a great variety is available in different sections. Wherever cotton seed meal can be bought for $25 to $30 a ton, it is one of the concentrates that should always be used. The best foodstuff to mix this with is bran, as it is rich in protein and thus will suit the needs of milk production, and it is also a very rough food. Corn meal can also be fed to advantage, especially when mixed with cotton seed meal and wheat bran. It is never advisable to make more than half of the ration corn meal, as it is too fattening and heating in its nature. It is always better to make it one-third. A splendid ration would consist of two parts of wheat bran and one part of cotton seed meal, or one-third corn meal, cotton seed meal and wheat bran. Two-thirds wheat bran and one-third cotton seed meal may also be used. Other substances may be had in great variety. For example, ground wheat, oats, soy beans or cow peas can at times be used to great advantage, depending on the locality and the price of foodstuffs. It is important to study the question of concentrates so as to combine them to insure a healthy, vigorous condition of the animal at all times. Take care not to feed them too liberally so as to cloy the appetite or to fatten the animals too much, as that interferes with the milk-giving function. Nitrogenous foods are nourishing to the nerves and these are important factors in the make-up of any dairy cow, and hence it is important to feed such foods as will stimulate and keep them on edge at all times.

In the summer time the cow should be kept free from the annoyance of flies by spraying with one of the well-known fly killer mixtures. The sprayer needed costs but little and the oil is cheap and will last a long time. The saving in milk and butter through attention to this matter is enormous and can hardly be realized by one who has not had some experience. A herd of dairy cows should receive the best care and attention, which means they should be curried at least once a day. The stable must always be sanitary, well lighted and kept thoroughly clean and well disinfected by whitewashing and spraying the stalls and mangers with some disinfectant material once or twice a week. Whenever possible it is well to have a cement floor in the stable and iron stanchions will prove an additional advantage. These tend to insure perfect sanitation and the health of the animals is a matter of prime importance. See that the cows have plenty of good pure water at will, and look after their comforts. They pay premiums on the investment in direct proportion to treatment accorded them.

Tennessee Experiment Station.

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Stock Queries.

Ration for Fattening Cattle.—Please tell me what you consider an ideal ration for fattening beef cattle. G. W. K.
Richmond, Va.

(*Reply by Prof. A. M. Soule.*)

The ration we have used most successfully for the "forced feeding" of beef cattle during the winter season in conjunction with silage is as follows: Two parts of cotton seed meal with one part of corn and cob meal. Animals weighing 800 to 850 pounds may be started on a ration of about 40 pounds of silage and 4 pounds of the meal mixture suggested. The meal mixture should be increased about ½ pound per week for the first 13 to 15 weeks of the feeding period. The idea is to increase the meal slowly and uniformly so as to prevent throwing the animals "off feed." We believe that it is not necessary to raise the meal ration above 12 pounds for cattle of the weight suggested if they are of fair quality. At the end of 13 to 15 weeks the meal ration will be about 12 pounds per head per day. It should then be fed in the ratio of two parts of corn and cob meal to one part of cotton seed meal. During the early part of the feeding period our object has been to secure the best growth and development of all the muscles and tissues of the body rather than the rapid fattening of the animal. In fact, if we fed corn and cob meal alone from the beginning we would not get sufficient growth and development to pay for a feeding period of 150 to 180 days, but by feeding a protein ration during the first part of the period and so developing the animals as much as possible, and then feeding a ration rich in carbohydrates for the last 60 days, we have been enabled to secure a uniform gain throughout the entire feeding period of five to six months. By feeding the larger proportion of corn and cob meal during the last part of the feeding period we also get a better finished animal that shrinks less when shipped by rail.

Hog Query.—My uncle has a 6-acre field, quite level but poor, to which he intends to apply 25 bushels of lime per acre, plow and harrow good, apply about 1,000 pounds of rock and potash per acre, sow Canada field peas and raise some legumes until it will grow about 20 tons of roots per acre. He proposes a rotation about like this: One acre each of roots, corn, oats, rye, and one acre of clover in the spring and sown with vetch in the fall, and one acre of peas in the spring and sown with vetch in the fall. Now, how many hogs do you think he can raise per year to a weight of 200 to 300 pounds, not counting cost of keeping brood sows? He intends putting crimson clover in the corn and vetch in the oats. Do you think with the above rotation and 1,000 pounds of rock and potash before each crop of roots it can be made to average 20 tons of roots per acre? O. W. M.
Cogan Station, Pa.

(*Reply by Prof. A. M. Soule.*)

It is a difficult matter for me to give you much helpful information about your plan for grazing hogs, as I know so little of your local conditions. An application of 25 bushels of lime and 1,000 pounds of acid phosphate and potash per acre is certainly liberal, even for land of moderate fertility, and should be sufficient to make the soil produce a good crop of field peas unless it is absolutely worthless. By growing Canada peas and other legumes in a rotation for a year or two and feeding the crop and using plenty of farmyard manure, there is no reason why the land should not improve until it will grow 20 tons of roots per acre. The rotation you suggest is well suited for the grazing of hogs. The rye would come first in the spring, the oats and clover next, then the corn and roots for the autumn. By using vetch and crimson clover as suggested you would extend the grazing period, help to improve the land and keep it covered in the winter time, and prevent washing and leaching—a very important consideration. It is impossible for me to more than estimate the number of hogs this land will carry. That would depend a great deal on the season, on the crop and on the quality of your hogs. An acre of land will carry from 5 to 20 hogs from 30 to 60 days. If very small, it might even carry them 90 days, provided they were confined on comparatively small areas and not allowed to run over the whole field and tramp down and destroy from one-third to one-half of the available food supply. If the hogs weigh 20 pounds when turned out to graze, the land would carry about three times as many as when they weigh 100 to 150 pounds. Most persons starting out to graze land make the mistake of stocking their land too heavy in the early part of the season and then have not sufficient area or food to properly finish the hogs. When the land is properly handled from 25 to 50 hogs could be carried in a favorable season, from weaning time to the weight suggested in your letter, on area of land mentioned. The only way to find out the carrying capacity of this land is to test it. This will not be a difficult matter to do, for after one year's experience you know pretty well what your land is capable of doing, and then you can make allowances for droughty seasons. So far as your general plan is concerned there is no reason why you should not be able to reclaim the piece of land and make it a profitable agricultural area, and also graze hogs on it to good advantage. Of course, it would be necessary to feed a small amount of grain to these hogs at all seasons of the year while on grazing crops, and especially in the fall. During the early part of the season you might feed a small amount of crushed corn, barley and oats; in the latter part of the season it is important to feed corn. This may be fed either on the ear or crushed and made into a thin slop, depending on the price of corn. When corn is cheap it is about as well to let the hogs eat it off the ear.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Self Sucking Cow.—I have a 5-year-old cow that sucks herself. She is fat and seems to be healthy every way. W. A. DRY.
Cleveland, N. C.

There is no cure other than a muzzle or other contrivance calculated to prevent her from practicing this bad habit.

Ringbone.—I have a valuable mare 6 years old that was snagged in the frog of the foot and ran up into the foot just above the hoof; about an inch of it was taken out one year after; the rest staid in two years and was supposed to come out. It caused a gristle or callous which makes the ankle larger than the other; is a little lame at times. Was snagged when two years old.
Kirl, W. Va. N. W. HYMES.

It is improbable that enlargement can be materially reduced, but lameness may subside if you blister coronet twice a month with cerate of cantharides. Clip hair from part before blistering, and keep head tied high so she cannot bite the part while blister is active.

PARALYSIS IN HOGS.

BY this we refer more particularly to the loss of use of the hind quarters. The first symptoms are shown by slight stiffness, disinclination to move, the back may also be slightly arched and the hind legs will knuckle forward. During the growth of young animals food rich in nitrogenous material must be supplied, such as bran, middlings, and oats, milk, beans, and peas, as these go directly to the construction of bone, lean meat, tendons, hoofs, hair, etc. If such materials are not supplied and much fat forming food is allowed, such as corn, the weight of the animal becomes too great. The muscular structures are not sufficient to sustain it. The conducting power of the nerves is impaired, and from some slight exciting cause complete paraplegia, or paralysis of the hind quarters will ensue.

When attacks come on give good surroundings and give a physic. For a pig castor oil in one or two-ounce doses; for older animals, one to two or even three ounces of Epsom salts dissolved in a half-pint of water should be given in gruel or as a drench at once.

This should be followed by the administration of iodide of potassium in 10 to 15-grain doses three times a day. If this is not followed by improvement, nerve tonics should be employed, such as tincture of nux vomica in 10 to 30-drop doses, three times a day in gruel. Stimulating liniments or friction to the back is often valuable.

As after treatment or as preventive—there is nothing else equal to Dr. Hess Stock Food, the great hog tonic—the great live stock reconstructive. It takes hold of every vital organ, revives every function; gives a sharp appetite and strong digestion, which is followed by quick assimilation of the food eaten and very rapid growth in solid flesh. It keeps the animal free from disease by giving it the vitality necessary to resist and throw off the cause of disease.

Dr. Hess Stock Food is the scientific compound for horses, cattle, hogs and sheep, formulated by Dr. Hess (M.D., D.V.S.). Sold on a written guarantee, 100 lbs. for $5.00—except in Canada and on Pacific Slope—smaller quantities at a slight advance; fed in small dose. For any disease or condition for which Dr. Hess Stock Food is not recommended, the little yellow card in every package entitles you to a letter of advice and special prescription from Dr. Hess.

Dr. Hess has written a book on the diseases of stock and poultry. It is the only complete treatise for farmers and stockmen published.

Write and state what stock you have, and how many head of each; what stock food you have used; also mention this paper. Address Dr. Hess and Clark, Ashland, Ohio, and for this information you will receive this valuable book free, postage paid.

Tuberculosis.—I have examined several hogs and pigs that have died for me and that I have killed on account of being helpless and suffering, and find them all affected in the same way. Their livers and that long piece of dark meat next to the stomach are filled with yellowish white lumps through and through, and some of them had a few lumps in their lungs. They cough hard, some of them breathe unsteady, as though they had the thumps. Some do not cough, and appear to be healthy. A short time ago I selected a Tamworth out of the herd that I thought would be perfectly healthy; one that I thought was the choice of a herd of over 100 head of hogs, raised mostly on alfalfa and artichokes. However, he would jump out and in as he pleased and help himself to the corn in the field. I killed him for my own use, and to my surprise his liver and long piece referred to above were one mass of lumps. These lumps are yellow and have a granulated appearance when cut open, but are soft. There is a casing formed around the lumps. When they are squeezed out it leaves a sort of a pocket; comes out clean. I also have two hogs that twist their heads to one side and hang one ear and run around sidewise; they eat quite well but do not increase in flesh but seem to get poorer. One young pig I examined had yellow spots on his small intestines about an inch long; intestines were filled, or partly filled, with waste formed in lumps and quite dry. The fat holding the large intestines together was full of whitish red lumps or specks, and appeared to be somewhat rotten. I also killed a sow that was feeding 9 little pigs as nicely as could be, but all at once she got weak in her back or hind legs and soon began to drag herself in spite of all I could do. She fed her pigs all right while in a helpless condition for a week or two, but one cool, damp night she got worse and took a spell of fits every once in a while for a day or two and finally she laid down on her side and could not even raise her head any more. I killed the sow; could see nothing wrong with her, only her lungs seemed to be very small; her kidneys appeared to be all right; her lungs might have had a few of the lumps already spoken of. I have plenty of alfalfa pasture in summer, and feed bran and shorts in winter when I do not have roots to feed. I feed as little of corn as I possibly can.
Arlington, Neb. EMIL UNLAND.

From your description we conclude that the hogs are afflicted with tuberculosis, but to settle the matter it would be well for you to send specimens to the State Experiment Station at Lincoln, or communicate with Dr. Peters of that institution and have him make an investigation. The nursing sow suffered from parturient eclampsia, a nervous disease associated with suckling. Pigs should have been weaned at once and sow quieted with morphia or bromide of potash or chloral, after which if physicked and carefully fed she might have recovered from the trouble.

Comfort When Riding.—In this number will be found the advertisement of the Lehman Carriage and Sleigh Heaters. It is one of those things which really ought to interest our readers. It will add greatly to personal comfort. Its cost is very slight, and the expense of keeping yourself warm by using this heater is very small. The Lehman heater has been on the market for a number of years, thoroughly tested from every standpoint, and the fact that over 200,000 are used and give satisfaction proves it to be as represented. Many a costly accident has occurred just because a driver was so benumbed with the cold as to be practically helpless. If you have not one of these heaters now, send for a little booklet describing it, and find out for yourself what a meritorious article is easily within your reach. It costs a half a cent per hour to make your ride warm and enjoyable. Write for particulars to Lehman Bros., 10 Bond St., New York City, and mention The Practical Farmer.

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My help is offered on trial. I want to show each sick one just what Dr. Shoop's Restorative can do before a settlement is made. And then, after a full month's treatment, the patient is to be the sole judge.

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The offer is unique. The way to secure six bottles of my restorative on trial is simple. There is no trouble but to write a postal, or a letter. I have made the way to help so easy, so simple, that none need hesitate.

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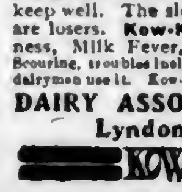

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

How to Make the Garden Pay

By T. Greiner, The Practical Farmer for one year and The Practical Farmer Almanac for 1904, all for only $2.00, the price of the book alone. If you raise vegetables of any kind you'll be interested in How to Make the Garden Pay. It will help you make

Your Garden Pay.

Talks on Timely Topics.

Soil and Manures for Forcing Tomatoes.—In the 1902 Year Book issued by the Department of Agriculture, I find the following: "According to many growers the character of the soil for forcing house tomatoes is not a matter of great importance. It is necessary that there be good drainage, but both light and heavy soils have been used with good results. Nevertheless, those who get probably the best results commonly use a light sandy loam. Very good results have also been obtained with a soil composed of coal ashes with 5 per cent. of peat moss to which various fertilizers have been added. A compost—one used for many crops—consisting of three parts light sandy loam and one part of well rotted horse manure, serves very well for tomatoes. * * * * In addition to manure, tankage is often added to the compost at the rate of 100 pounds to every five cubic yards of compost. When good manure is not available for the compost, a good soil may be obtained, according to Voorhees, by adding to every 100 square feet of bench the following mineral fertilizers: Nitrate of soda, one-half pound; acid phosphate, 1 pound; muriate of potash, one-half pound. This holds good until the fruit begins to form, when it is well to give one-fourth pound nitrate of soda every week, and every two weeks one pound acid phosphate and one pound muriate of potash. These may be applied in solution, or dusted as a powder between the plants and well worked in before planting." Two and more pounds of fruit per square foot of bench surface have thus been obtained. In order to secure the largest yield of good fruit, the following soil mixtures are recommended: Nitrate of soda, 6 2-5 lbs.; bone black, 1 lb.; muriate of potash, 2 2-5 lbs. Add this to 75 cubic feet of a soil consisting of coal ashes (anthracite or bituminous) and 5 per cent. of peat moss. In case ordinary loam be used in place of the coal ashes and peat, use for every 100 cubic yards of good loam: Well rotted manure, 240 lbs.; dissolved bone black, 13 lbs.; muriate of potash, 25 pounds.

The Season's Record.—The season of 1903 I believe must go on record as a pretty good one for the vegetable grower. In the production of some things, perhaps, we have not been nearly so successful as in former years. We have had but a sorry crop of eggplants. In fact, they were as near a failure as we have ever known them to be in our garden, with the single exception of the crop of 1902. We have had only comparatively few melons, and most of them were unreasonably and unseasonably late. We tried our best to grow radishes in their usual perfection. Both summer and winter sorts, no matter when or where or how seed was sown, were poor, worm eaten, worthless for sale or table. The Mangel beets of all varieties, for stock, failed to get their usual size, although soil was good and the season apparently favorable. But we did grow lots of other things—lettuce, bunch onions, kohl rabi, table beets, carrots, celery, cabbage; besides berries of all kinds in abundance; and everything we had to sell went like hot cakes, and at much higher prices than in any season during the past ten or twelve years, so far as I can remember. Just at the present time there is plenty of call for table beets in bulk, and for carrots, and onions, and if we could only supply them, no fault would be found with the price, even if considerably higher than these vegetables have usually been selling for in the fall.

Current Comments.

Fertilizers on Potatoes.—A reader in Cokeville, Pa., proposes to plant potatoes in the furrow, and then scatter the fertilizer over them. This, he thinks, is a quicker way than to mix the fertilizer with the soil in the bottom of the furrow before planting. We prefer to scatter the fertilizer not exclusively into the bottom of the furrow, but over a wide band with the furrow in the centre; then run the furrower once more in the bottom of the furrow, and afterwards plant the potatoes on this well loosened up surface of soil in the furrow. This extra loosening of the soil under the seed potato has sometimes more beneficial effect than the fertilizer has. However, if the fertilizer is scattered thinly and evenly, the seed potatoes may be immediately placed into the furrow and the furrow filled in, without much danger of injury to them by coming in contact with the fertilizer.

Radish Seed.—The same inquirer told that all his radishes had gone to seed, and he wants to know whether the seed thus grown will be good to plant next year. I think it will. At least, I have frequently planted radish seed of my own raising and produced fine radishes. But if the practice is continued, the radishes would undoubtedly soon deteriorate. Our climate has a tendency to produce top rather than root. Consequently I would expect a gradual increase of top, and simultaneous decrease of root. Get new (imported) seed at least every second or third year.

Rusted Beans.—Another query propounded by a correspondent is, will seed beans gathered from plants that were badly rusted in 1903, be safe to plant in 1904? Probably not. At least, if conditions favor rust, I would expect the plants grown from that seed, to rust next season. Thorough washing in a solution of corrosive sublimate or formalin, or in a solution of copper sulphate, may, however, disinfect the beans, and give a crop free from rust.

Bean Growing.—P. C. Younce, Mabel, N. C.—"What variety of beans is best to raise for market, and at what distance should they be planted?" The selection of variety depends altogether on the locality. It might be that you can raise lima beans to best advantage, either the bush or the pole form. Of ordinary beans to be marketed dry in the fall or winter, we have a long list that can be grown in almost any locality. Whatever the market wants, then, is the kind to grow. In Yates county, N. Y., the Red Kidney is about the only variety grown in large quantities. Perhaps they are not as productive as some white sorts (Pea bean, Medium, etc.), but are not as easily injured by discoloration in wet weather in the fall. In some counties, the Mediums are more largely grown, in others the Navy or Pea, etc. The rows are usually made 30 and even up to 36 inches apart. In rich soil the latter distance is none too much. Less will do in thin land.

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Points and Pickings.

A Reader Says that he keeps the crows out of his patches by stretching white strings between stakes 6 feet high and the stakes set 20 feet apart around the patch.

Somebody has tried to keep melons until Christmas by first dipping them in a wax preparation, sealing the stems with sealing wax, and finally giving them a thick coat of shellac, and packing them in sawdust. The shellac coat has occasionally been recommended for squashes.

The Best.—We are asked to name a good horticultural paper. Green's Fruit Grower is the best one we know of. You can get it and The Practical Farmer, both one year, and The Practical Farmer Almanac for 1904, all for only $1.10. We don't know of a better combination for the farmer and fruit grower than this.

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You can make it pay better by reading How to Make the Garden Pay, by T. Greiner. It tells all about garden matters fully illustrated and cloth bound. Price $2. It will be sent you absolutely free if you send us a block of 6 yearly subscriptions to The Practical Farmer and $3.00 for same.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Protecting Evergreens in Winter.

It is only after a good deal of experience that the knowledge how best to protect evergreens is acquired. The writer well remembers how he lost a valuable Magnolia Grandiflora some years ago, by wrapping it up closely with burlap. He knows better now. Trees of the nature of the magnolia, such as all broad-leaved evergreens and many coniferous ones, such as Japanese cedars and some of the spruces from the Pacific coast simply ask us to protect them from the sun in winter. They do not want a close wrapping which keeps out the air; they want the air, or enough of it that their foliage and twigs will not become tender. When wrapped up in burlap or similar air excluding material the tenderness which it brings causes the destruction of the parts we wish preserved. By the time spring comes, which is the critical time for the trees, the foliage and wood is so soft that the very thing we wish to prevent is made easy. So often has this been realized by the writer that he is firmly convinced that shade is the main thing to be considered. Very often it is not difficult to arrange that a tree suspected of being not entirely hardy be planted in a position where the sun does not reach it during the winter months, which would be an ideal position for it. If in an open place, tie the branches in some, but not in a smothering way, then procure cedar branches or those of some other evergreen and bind these around it, but in a loose way, no matter how loose, so the shade is provided. Corn stalks are excellent, but are less sightly than evergreen boughs, though they answer all purposes admirably. A strong stake driven in alongside trees not strong enough to hold cedar boughs will admit of their being tied to it and then the branches of cedar can be tied upside-down, which permits of the shedding of snow without the breaking of the twigs. For deciduous trees which need protection the best way is to get them under a cover of soil, ashes, sawdust or something of the kind. As the damage to evergreens occurs towards spring, principally, when the sun is high, Christmas is thought early enough for evergreens, though better do it at once.

Root Pruning Fruit Trees.

In Europe, especially England, where every fruit counts, as fruits are not in abundance as they are here, a great deal of pains is taken to get the most possible from every tree. Gardening papers, of which there are many, teem with advice and directions to correspondents how to proceed to get the most from their trees. One thing dwelt on largely is the root pruning of trees slow in bearing. Time and again are the readers told to root-prune the trees, to encourage the bearing of fruit. And this sometimes goes as far as the recommendation to lift the tree entirely from the ground and re-set it. Not only to make it fruitful is this treatment recommended, but it is not uncommon to find directions for digging under a tree and cutting away its tap root, to increase the flavor of the fruit. In fact, the advice to cut away the tap root is constantly given and is, evidently, in harmony with what long experience has taught them is best to do. The practice here has not been to do much root pruning. It is a land of plenty in the way of fruits, and the necessity to get every fruit possible from a tree has never been experienced. But there is many a tree unsatisfactory at present which would be the better for root pruning. Trees in rich ground, for example, which are making an enormous growth and which bear little or no fruit. To bring them into bearing, dig around them at some distance from the trunk, cutting off some of the larger roots. If this be done now or any time when the tree is not in leaf, the season of growth following will end with its having formed fruit buds for the spring succeeding.

Anything that checks growth produces fruitfulness. Pruning of the top in summer before growth is over acts in the same way. All kinds of fruit trees may be encouraged to set fruit buds by summer pruning. This means a shortening in of the growing shoots. Towards the close of summer, when the lengthening of shoots for the season is nearly over, cut the ends off. A few little buds or spurs will form which will give flowers the coming season. Between the two plans, the pruning of the roots and the tops, it is not difficult to get fruit from a tree; and besides sorts we already know, there are at times new ones we are anxious to know something of, and pruning hastens the satisfying of our curiosity.

Forget You Ever Had It.

Catarrh, the Most Odious of All Diseases, Stamped Out, Root and Branch.

Catarrh is the most foul and offensive disease that afflicts the human race. Anyone with social ambitions had better renounce them if he has a bad case of catarrh, for his presence, if tolerated at all, will be endured under protest. The foul and sickening breath, the watery eyes, the hawking and spitting and fetid discharge at the nose make the unfortunate sufferer the most avoided of human beings.

Stuart's Catarrh Tablets are the hope and relief of catarrh victims all over the world. They go direct to the root of the disease and thoroughly eradicate it from the human system. They cleanse and purify the blood of all catarrhal poisons and under their influence all impurities are carried off. The blood becomes pure, the eye brightens, the head is cleared, the breath becomes sweet, the lost sense of smell is restored, the discharges cease and the sufferer again feels that he has something to live for. He is again a man among men and can meet his fellow-beings with satisfaction and pleasure.

The following letter from a St. Louis lawyer is only one of thousands received praising the merits and curative powers of Stuart's Catarrh Tablets. Read what he says:

"I have suffered from catarrh for 15 years. It would be worse at certain seasons than others, but never failed to annoy me and cause me more or less misery during that period. About a year ago I got so bad that I thought of abandoning my practice. I was a nuisance to myself and all who came near me. My condition was very humiliating, and especially so in the court room. I had tried, I thought, every known remedy; all kinds of balms, ointments, inhalers, sprays, etc., till I thought I had completed the list. I was finally told of Stuart's Catarrh Tablets by a friend who took pity on me and, as a drowning man will catch at a straw, I got some and began taking them. I began to improve from the first day and I kept up the good work you may rest assured. In six weeks I was as free from catarrh as the day I was born, but to make assurance doubly sure, I continued the treatment for six weeks longer.

"I have had no trace of catarrh in my system since. I am entirely free from the odious disease and feel like a new man. I write this letter unsolicited for the benefit of fellow sufferers and you may give it as widespread publicity as you wish."

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125 strawberry plants (by mail, postpaid) for only $1.00. 3 varieties, our selection. Send for catalogue. John Lightfoot, Sherman Heights, Tenn.

COW PEAS, Second Crop POTATOES, Collard Seed, Etc. Z. M. L. JEFFREYS, Goldsboro, N. C.

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Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box 711, Philadelphia.

SPRAY with EMPIRE the KING or ORCHARD MONARCH. PERFECT AGITATORS with Automatic Brush for cleaning strainer. No leather or rubber valves. All styles of Spray Pumps. Book free. "No swindled feeling if you use our pumps." Field Force Pump Co. 11th St. Elmira, N.Y.

The Fruit Grower, published at St. Joseph, Mo., will be sent 1 year if you send 25c and names of 10 farmers who grow fruit. "The Fruit-Grower is the best fruit paper we have, East or West."—Prof. Price, Dean Ohio Agl. College. Illustrated. Regular price 50c a year. For sample address FRUIT-GROWER CO., 2112, 7th St., St. Joseph, Mo.

Horticultural Queries.

Gas Tar on Trees.—We think we have the San Jose scale in our orchard. I had thought of painting my trees with gas tar. Would like to know if the tar will damage the trees in any way? S. M. DELLINGER.
Mt. Holly, N. C.

Gas tar would be apt to kill the trees as well as the scale. The scales are usually on the young twigs, not on the trunk or large limbs. The lime, sulphur and salt mixture recently mentioned in The Practical Farmer, is what you need. Good's Caustic Potash Whale Oil soap is claimed to be effective. You will find it advertised in The Practical Farmer. And there are those who have spraying apparatus to sell, who advertise, and you could get from these men circulars giving full directions for spraying mixtures.

Horticultural Notes.

Holland Bulbs.—Nearly all the tulip, hyacinth and like bulbs are imported from Holland. There is reason to think there are localities here where they could be raised just as well as elsewhere.

Two Pie Cherries.—The Montmorency and the Early Richmond are the two leading pie cherries, and, as with all of this class of cherry, they are hardier than what are known as sweet cherries.

A Good Suggestion.—Keep in mind the placing of a few forest leaves about the base of rose plants and others of a choice nature. No matter if hardy, the leaves keep frost from the roots, protect the buds at the base, and tend in many ways to aid the plant.

Orange and Lemon Trees.—Wild oranges and lemons in tubs, of which there are some which have been raised from seeds in many houses, require to be grafted just as they start to grow in spring. If grafts fail to grow, bud them when growth for the season is nearly over.

Covering Figs.—The Philadelphia growers of figs placed their bushes underground on the 18th of November this season, about the same date as usual. Hardly any freezings had occurred, but hard ones were reported on the way, and covering had to be done while the opportunity lasted.

Keeping Coleus.—To keep coleus through the winter in a dwelling room, keep the foliage dry. Cold damp soon destroys the plants. They prefer lots of heat, but can be kept alive in a moderate temperature if the leaves are not moistened. With lots of heat warm moisture does not hurt the foliage.

Huckleberries.—A correspondent wrote some time ago that she would dearly like to have in her garden a plant or two of the huckleberry she used to know when a child. Many nurseries keep the plant, some of them under its Latin name, Vaccinium Pennsylvanicum. If taken direct from the woods the plant should be cut back nearly to the ground. So treated it rarely fails to live.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

House for Fifty Fowls.—Fifty fowls is about the number that a good many farmers keep during winter. Few farmers are so situated that they can profitably care for a much larger number. Some have even less, keeping fowls more for their own use than for the sale of eggs. A room 12x18, or 10x20 feet would easily accommodate that number. We, like many others who winter about that many, find it safer and more convenient to keep them all in one flock than to divide them. Mr. Mapes, the Rural's "hen man," suggests the idea (which may be new to some) that it would be better to divide the room into two, making a smaller and a larger one; if for a house 20x20, for instance, one room to be 8x20, to be used as a roosting room; the other 12x20, to be used for the fowls to remain in during the night. In the larger room, the birds would have plenty of light, while the roosting room would be warmer. The larger room would then serve as a scratching shed, and may be ventilated, or partially opened during the day, especially in mild weather.

Nitrogenous Poultry Foods.—We still have a high opinion of cow peas and soy beans as food for layers. Even the leaves and small stalks of these legumes are first-rate for fowls. In an exchange we find the following report: "Cow peas for food for poultry were harvested after maturity, stored in dry lofts and thrown to the fowls in scratching pens, where they were scratched over and searched for during the day. After a few days the egg supply very visibly increased, and within a few weeks almost doubled that from an equal number of hens kept in separate quarters and fed on no other grains. The hens seemed to like the small branches and leaves, and would eat every particle except the hard, stiff stems. The general health of the flock was excellent, and not a single hen showed the least symptom of ailment during the winter season." Our own experience in feeding cow peas and soy beans and their leaves, etc., is entirely in line with this. Linseed meal also gives good results. All these to be fed in moderation.

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We will send The Practical Farmer and Poultry Success, both for one year, and The Practical Farmer Almanac for 1904, all for only $1.15. If you are raising poultry on either a large or small scale you will find Poultry Success a great help.

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Smooth or Rough Poles?—Mrs. A. J. Sanders, of Indiana, advises to use small round poles with bark on, in order to give the mites a chance to collect in the bark, so that they can be killed by painting the poles with kerosene, using a whitewash brush. We prefer to give the mites no extra chance to breed by providing them with hiding places. We use smooth poles, held in such a manner that mites can't find much chance to hide. Such poles are more easily covered with kerosene than rough ones, and are easily kept free from these insects.

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Queries Answered.

Poultry Book.—John P. Bourdet, of New Orleans, La., writes: "Kindly let me know which is the best and most practical pamphlet, or book, on remedies on poultry diseases, and price." Get "Profits in Poultry." You can get a copy from The Farmer Co. Price, $1.

Shredded Wheat Waste.—D. L. McKinney, South Canaan, Pa.—"I would like to learn more about that shredded wheat waste of which you have written lately. How does it compare in feeding value to bran and fancy middlings for laying hens and growing chickens? Where can it be gotten and what is the price, both wholesale and retail?" The writer has just sent his wagon to Niagara Falls for a new supply of shredded wheat waste, which can be had from the Natural Food Co., the manufacturers of the Shredded Wheat Biscuits, at $20 per ton. This material is just about equal to the whole wheat in composition, but has a greater food value as it is already cooked and much more easily digested than the wheat grain. Our pigs have done excellently on this waste, and for long periods we have fed it to our laying hens and growing chicks almost to the exclusion of every other cereal food. Of course, we usually add a fair percentage of meat meal, and often we moisten the shredded wheat waste with milk. It makes a most excellent food in any shape.

Ready.

New price list now ready. If you wish the finest of hardy, healthy, thrifty, Northern grown fruit trees, at very low prices, write Call's Nurseries, Perry, Ohio, for price list. They make a specialty of dealing direct with the farmers, and enjoy the well earned reputation of sending out the finest trees grown. A large number of our leading horticulturists say the finest fruit trees they ever received came from Call's Nurseries. They have a large stock of the Arctic, the hardiest of all peaches and the best of all hardy peaches; also the Graves, the earliest, largest and best of the yellow free-stone early peaches.

Rheumatism Cured by a New Remedy. 50,000 BOXES FREE.

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While an invalid from Rheumatism, when nothing in the world would even relieve me, I succeeded in combining five harmless ingredients into a compound which completely cured me contrary to the predictions of my doctor. I then tried this remedy on my friends and neighbors suffering from rheumatism, also on hospital patients with such wonderful results that even prominent physicians had to admit that my remedy was a positive success.

Since then the remedy has cured hundreds of decrepit persons who could neither clothe nor feed themselves, among them persons of 70 and 80 years of age, who had suffered for more than 40 years. So positive am I what this remedy will do, that I have set aside 50,000 boxes for free distribution so that other unfortunate sufferers may profit by my good luck. It is a wonderful remedy and there is no doubt that it will cure all cases given up by doctors and hospitals.

Remember that I ask you for no money, simply send your name and address for free trial box, and should you want more you can have it at a small cost. It is not my intention to accummulate a big fortune out of my discovery, but what I want is to relieve misery and torture. Address John A. Smith, 3158 Germania Bldg. Milwaukee, Wis. Send NO Money NOR stamps.

APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free. Harrison Nurseries, Box 30, Berlin, Md.

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CHRISTMAS PRESENT. One dozen fruit trees will make a lasting present. Send us $1.20 and we will send you or your friend, postpaid, one dozen Elberta Peach trees. Write for catalogue and prices. Chattanooga Nurseries, Chattanooga, Tenn.

Warmth. If you value comfort when driving, use LEHMAN CARRIAGE AND SLEIGH HEATERS.

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Dressed Poultry and especially TURKEYS will bring higher prices this winter than ever before. If you will have any to market—send us your name and address. We want to keep you posted. WALTER R. LEES & BRO., 320 So. Front Street, Philadelphia, Pa.

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VICTOR Incubators are truthfully pictured and their actual working told in about 30 of the 80 pages of our new catalogue. The rest of the book gives information about the chicken business. We begin the story in the egg and end it with the marketing of the fowls. There's knowledge which will benefit anyone and may mean dollars to you. Our incubators are driving hens out of business. They work regardless of weather or of seasons. You can count on hatching every fertile egg. Money back if not all we claim. We pay freight. The book is free. Just say "Send Victor Book" and we'll do it. GEO. ERTEL CO., Quincy, Ill.

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The Practical Farmer.

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PROF. W. F. MASSEY, Editor.

Philadelphia, December 19, 1903

Crop Growing and Crop Feeding.

By Prof. W. F. Massey. Unlocks the problems of how to grow the largest crops and maintain and increase soil fertility at the same time. Told in simple language, so that the plain every day farmer can understand every word. A copy of Crop Growing and Crop Feeding, cloth bound, postpaid, The Practical Farmer for one year, and The Practical Farmer Almanac for 1904, all for only $1.50. The book in paper binding, The Practical Farmer and the Almanac for only $1.25. The cloth bound book sent free for a block of six yearly subscriptions to The Practical Farmer at 50 cents each, new names and renewals.

A Word to Our Friends.

During the year just drawing to a close we have had most pleasant relations with our army of friends who read The Practical Farmer from week to week. By word of mouth and by written page we have been led to realize how strong the tie which binds editor and reader. We believe in the community of interest which exists between our paper and its subscribers, and shall spare no effort to strengthen it. We like to regard every subscriber as a personal friend, who will tie to us for the remainder of his life. We want all our old friends to go along with us in to the New Year just ahead. The Business Management tells us that 17,000 subscriptions will expire next week, and all whose renewals are not received by that time will be struck from the mailing list, and will not receive the Jan. 2nd number. We have no doubt that all, or nearly all, of these 17,000 friends will be with us in 1904, but we don't want a single one of them to miss a single number of the paper. Hence we emphasize the fact to all whose subscriptions expire January, 1904, that they should NOW send their renewal subscriptions and thus avoid any break in the 52 weekly links of The Practical Farmer. Promptness on your part will ensure your continuance with us, and faithfulness on our side will make that continuance increasingly profitable to you.

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THE Washington correspondent of the Philadelphia Inquirer says that the President of the United States is contemplating an investigation of the methods of free seed distribution in the Department of Agriculture. We would suggest as a better subject for investigation the practice of Congressmen in appropriating hundreds of thousands of dollars for this purpose, and the reasons at the bottom for their doing so. He had better investigate the law under which the abuse has grown up and see if he cannot get it confined to its original purpose in the introduction and testing of seeds new in this country, and that may be of probable value here, rather than the scattering abroad over the land of seeds that can be bought generally of better quality from seedsmen, and which are now only used by the Congressmen as taffy to their constituents. He had better inquire why it is that these seeds, little valued as they are by the people in general, are sent by Congressman only to their political friends rather than to cultivators without regard to party. In short, he had better investigate the abuse of the law by Congress than the particular method the Secretary uses to obey the law, which he knows absorbs hundreds of thousands of dollars he could use to better purpose in the development of American agriculture.

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Books on Elementary Agriculture.

There is a widespread opinion among those who have given most thought to the subject that the teaching of Agriculture should begin in the rural schools, and the effort is being made to prepare suitable books for this purpose, and by the summer schools in colleges of agriculture to prepare the teachers for the proper use of these books. A number of such books have lately been presented for the consideration of those who control the introduction into the schools. One of these, published by a Southern house, was found so absolutely nonsensical that it seems to have dropped dead from the press. Another volume written by Mr. Hunnicutt, editor of the Southern Cultivator, and published by the Cultivator Company, impressed us quite favorably on a cursory examination, and we have stated our opinion in rather favorable terms. But a more careful reading of the book shows that it abounds in hurtful errors, and is far from being the book it should be to put into the hands of children. In the first place, the English language is at times, badly mutilated. The author seems to have a confused idea as to what constitutes an element, since he places humus among the elements, while it is one of the most complex of compounds. Then he repeats in writing about how plants get food from the soil, the old exploded notion that the roots have absorbent "spongioles" at their tips. We now know that there is no such thing as a spongiole on the rootlets, but that each rootlet has a more or less pointed root cap at its tip, and that the absorption of water from the soil is accomplished by means of the microscopic root hairs just back of the tip, which are continually drying off and being renewed as the rootlet pushes through the soil, and that the cap is continually renewed by the increase of cells behind it and at the growing point of root, so that the extreme tip of root is a little older than the part just back of it. He says, "Circulation is the law of plant life." Now, it is well known that there is no circulation in plants at all comparable to the circulation of the blood in animals. "Through the soil comes the sap." The roots take up water from the soil in which the plant food is dissolved, but this is simply water and not sap, for the true sap is the elaborated material for growth which the leaves make from the carbon they get from the air and the food that the roots bring up in water. Then we have the astonishing statement that the carbon must pass from the atmosphere to the earth and through the roots into the plant. Now, if there is one thing completely established it is the fact that plants get their carbon from the carbon dioxide in the air, which enters the pores of the leaves and is there decomposed by the green matter in the cells and the carbon taken and the oxygen thrown off, and there is no evidence whatever that carbon in the soil gets into the plant through the roots. Then he repeats the error about the spongioles, and says that they take up water which is called sap, and which runs up and down through the pores of the plant, when it does nothing of the sort, but simply carries up plant food and is evaporated from the leaves to condense the plant food so that the leaves can make building material from it. These and numerous other errors of an elementary nature are enough to condemn the book as a text book for young people, and we regret the hasty view that caused us to give a favorable notice of the book. From the press of Ginn & Co. we have another little book that comes nearer being the true thing for the rural schools than any yet published. This is by Professors Burkett, Stevens and Hill of the North Carolina College of Agriculture and Mechanic Arts. Its English is pure, its scientific facts are up-to-date, and its elementary lessons in farm practice are just what a school boy can grasp and get interested in. Then, too, the book is on fine paper and has a wealth of beautiful illustrations, a thing of great importance in a book intended to attract school children. Then, too, there is not too much of it, but it is simply what it purports to be, the A. B. C. of the farm.

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Agricultural Papers and Their Importance to the Farmer.

"To my mind the work of the agricultural press is only in its infancy. Let the organizations, the college, the Station, the fairs and the Institutes do all they can; and yet the field of the paper remains unoccupied."—Prof. Davenport, Illinois College.

Some years ago when Dr. Atherton of our Pennsylvania College was President of the National Association of Agricultural Colleges and Experiment Stations, he said in his annual address to the Association, in referring to the work of the Experiment Stations, that the Station investigators who had gone into the agricultural press to bring their work before the farmers had given the Stations with which they were connected a much broader influence on the agriculture of the States than those who kept themselves locked up in their investigations. We do not attempt to quote Dr. Atherton's language, but this was the gist of it as we remember. The fact is that the colleges, the Stations and the Institutes all need the agricultural press, and all taken together are making the great agricultural university of America. They are component parts of a great educational system which would not be complete without them all. The results of the work of the Stations are brought before the farmers in the agricultural press and a digest that the farmers will read, while many of the bulletins, though of great value, are too technical for the mass of the farmers to take an interest in or to understand. Then, too, the farm paper, while giving the results of Station investigations, adds continually the experiences of the men on the farms, often crudely expressed, perhaps, and at times drawing conclusions that a scientist would conclude were not warranted by the facts, but still bringing to the attention of the scientists in the Stations what thoughtful men are finding in their daily toil, and giving them clues for the elucidation of these practical problems that in turn may come back to the farms. And when the problem is worked out the farm paper translates it for the men on the farm. Then the discussions at the Institutes are in the papers brought to the attention of thousands who cannot attend the Institutes. And thus the work goes on until if it was a question of doing without any one of these several agencies, the farm paper would be the last one abolished. There are, of course, good, bad and indifferent farm papers, as there are good, bad and indifferent Station bulletins. In fact, in culling over the mass of bulletins that come to us to select those worth making a review of, we are struck with the fact that the bulletins that can be made useful to the farm readers are exceedingly few, and that while many have a value as contributions in the study of pure science, there are hundreds that seem to have been published solely for the purpose of fulfilling the requirements of the law.

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The Cream of the Bulletins.

Agricultural Experiment Station of the University of Nebraska, Lincoln, Neb. Bulletin No. 81. Experiments in the Culture of Sugar Beets in Nebraska. By T. L. Lyon and A. T. Wiancko.

The co-operative sugar beet experimental work upon the farm of the Standard Cattle Company at Ames, Nebraska, during the season of 1902, was in part a continuation of previous work where conclusive results had not been obtained, and in part a test of methods of culture and combatting disease that had not previously been under consideration. The work was all intended to solve problems that the sugar beet growers have to contend with. The liberality of the Cattle Company made it possible to carry on the work on a large scale, over 200 acres of land being used in the work, mainly on a deep, friable loam soil of uniform physical character and fertility. This uniformity of soil made it possible to use larger plats without danger of varying the conditions. The season was favorable, and at no time was there a lack of moisture, and the excess of moisture in July was probably the cause of the prevalence of the leaf spot disease later in the season. Temperature was rather below the normal and there were no extremes of heat as in other years. Twenty-eight varieties of beets were tested, including three lots of home-grown seed. The land was deeply fall plowed after a crop of oats, and was disked in the spring to conserve moisture. Seed bed was prepared just ahead of the planting by thorough double disking, followed by a straight-tooth harrow and a roller with a light harrow attached to slightly roughen the surface. Planting was begun May 1st, with two 4-row planters, and was completed May 10th. Plats were 160 rods long with 48 rows 18 inches apart, except plats 27 and 28, which, owing to lack of seed, contained 31 rows and two rows respectively. Stand was good on most of the plats. Plat 28 was remarkably fine though the seed was the same as plat 24, but subjected to what is called by the producers peeled and disinfected; that is, the outer husk rubbed off and the seed treated with weak solution of sulphuric acid. This plat was very noticeable through the season, and was practically free from leaf spot, which affected all the other plats, and the yield was the heaviest and the juice the purest of any. The bulletin gives an extended table of the yields of the 28 varieties, the percentage of sugar and the purity of juice. Previous experiments having shown that fertilizers were useless on the soil at Ames, it was discontinued, but it was thought desirable to get the results of heavy application of stable manure upon the quality of the beets and their susceptibility to disease. With similar object lime and salt were also used. Six hundred pounds of salt per acre resulted in a crop of nine and a half tons per acre with 12.9 per cent. of sugar and 80 per cent. purity. Farm manure, 20 tons per acre, made 9.53 tons per acre, 11.5 per cent. sugar and 79.3 per cent purity. Refuse lime, 10 tons per acre, made 9.64 tons per acre, 11.4 per cent. sugar and 80 per cent. purity. Unfertilized made 9.90 tons, 11.6 per cent. sugar and 78.8 per cent. purity, showing a result in favor of no fertilization. The results from home-grown seed compared favorably with those from imported seed, and showed that the quality of the seed is of more importance than the variety. Results favored early planting. A comparison of different depths of cultivation showed results in favor of rather deep cultivation, but the season was cooler than the average and previously three inches seemed to be the proper depth. The yield was increased by a deep hand hoeing when the beets were four to five inches high. The presence of weeds in a beet field very materially decreased the yield and sugar content of the beets. Breaking off part of the leaves at laying-by time did not injuriously affect the yield or quality of the crop. Beets treated in this way were less affected by leaf spot disease than those not so treated. Continuing the cultivation of sugar beets after the leaves were full grown considerably increased the yield per acre.

Our Business Corner

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Free Press (semi-wkly), Detroit	2.00	1.60
Globe-Democrat, St. Louis, Mo.	2.00	1.65
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Green's Fruit Grower, Rochester, N.Y.	1.50	1.10
Harper's Magazine, New York City	5.00	4.10
Ladies' World, New York City	1.40	1.15
McClure's Magazine, New York City	2.00	1.70
Munsey's Magazine, New York City	2.00	1.75
Poultry Success	1.50	1.15
Success, New York City	2.00	1.50
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CONTENTS

AGRICULTURAL. — Do You Work Because You Must, or Because You Love to?—A Busy Chimney Flue.—An Indoor Earth Closet. 385
QUERIES. — Manufacturing Combined Nitrogen.—A Mushroom Scheme.—Raising Water for Irrigation.—Fertilizer for Meadow.—Alfalfa in Kentucky. 386
Book on Pecan Culture.—Cut or Shredded Stover.—Varieties of Peas and Fruits.—Corduroy Roads.—Pastures and Wheat.—Shucking Walnuts. 387
LIVE STOCK AND DAIRY.—Caring for the Dairy Cow. 388
Stock Queries.—Ration for Fattening Cattle.—Hog Query. 389
VETERINARY.—Self Sucking Cow.—Ringbone.—Tuberculosis. 389
GARDEN.—Talks on Timely Topics.—Soil and Manures for Forcing Tomatoes.—The Season's Record.—Current Comments.—Fertilizers on Potatoes. — Radish Seed. — Rusted Beans.—Bean Growing.—Points and Pickings. 390
HORTICULTURAL. — Protecting Evergreens in winter. — Root Pruning Fruit Trees. 390
Horticultural Queries.—Gas Tar on Trees.—Horticultural Notes. 391
POULTRY. — Seasonable Suggestions.—House for Fifty Fowls.—Nitrogenous Poultry Foods. — Smooth or Rough Poles?—Queries Answered.—Poultry Book. — Shredded Wheat Waste. 391
EDITORIAL.—A Word to Our Friends.—Books on Elementary Agriculture.—Agricultural Papers and Their Importance to the Farmer. 392
CREAM OF THE BULLETINS. 392
COMMERCIAL. 393
HOME CIRCLE.—Editorial Chat.—The Little Things That Count in Life. 394
Our Book Table.—Sabbath Reading. 395
OUR EXPERIENCE POOL.—Topic No. 603.—Give Your Experience in the Raising of Geese and Pekin Ducks. 396
SHORT CUTS BY P. F. SUBS.—Handy Room Arrangement. — Household Economies.—One-Man Corn Sled.—Mending Tinware.—Coal Oil for Cleaning.—To Start Fires Easily.—Remedy for Ivy Poison.—Bathe a Bruise. — For Stomach Worms.—Household Short Cuts.—Short Cut for Silo.—To Save Climbing.—Simple Feeding Rack. 397
MISTAKES, FAILURES AND SUCCESSES.—Mistake in Plowing.—Improving the Farm.—Importance of Barn Room Room.—The Farm Fences.—Our Sweet Corn.—Killing Pea Weevils. — Growing Peanuts.—Canning Hints.—Keeping Beefsteak.—Do You?—Washing Tumblers. 398
POSTAL CARD CORRESPONDENCE. 399

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

December 12, 1903.

There has been a fractional decline in wheat since our last report. Exporters continue indifferent, which with bearish speculation in all home markets, is responsible for the decline. The Government report on winter wheat shows a small loss in the area sown and a condition of 86.6 as compared with an average of 92.7 for the last nine years. There has been a decided drop in corn during the week, but at this writing the market is firm, with a fair demand for local consumption. Oats are dull with liberal offerings at former rates. Live chickens and fowls of good quality are scarce and are promptly cleaned up at outside rates. Supplies were mostly of medium and low quality. Turkeys, ducks and geese were in small supply. In dressed poultry fine young turkeys were in demand. Fowls and chickens were plentiful and sold slowly. Ducks and geese were steady under a small supply and fair demand. Owing to the general use of storage butter the market for fresh creamery was quiet and prices were weak for everything except strictly fine goods. Factory was dull, the offerings being mainly of unattractive quality. Prints were plentiful and quiet. Fine new laid eggs were scarce and firm, with a good demand. Refrigerator eggs were in moderate supply and prices ruled firm with fine marks in good demand. Large supplies of cheese with moderate demand made the market heavy. Apples were in liberal supply, but the market ruled steady for desirable stock. Cape Cod cranberries were in moderate supply and a good demand kept prices firm. Jersey stock was plentiful and dull. Florida oranges were in moderate supply with a fair demand. White potatoes were steady, the supply being moderate and demand good. Choice onions and cabbage were scarce and sold promptly. Most of the offerings were of inferior quality. The demand for dried beans was light and the market was weak. Baled hay and straw were in liberal supply and the market was barely steady. Feed was in better demand and a shade firmer under light offerings. Cotton prices have declined 20 points since our last report under lower Liverpool and home advices. Demand from spinners light.

WHEAT.—			
No. 2, red, spot and Dec.	86	@	86½
No. 2, Penna. and Del.	87	@	87½
No. 3, red	81	@	81½
CORN.—			
No. 2, mixed	47½	@	47¾
No. 2, yellow, old	54	@	54½
No. 2, yellow, new	48	@	49
No. 3	47		
OATS.—			
No. 2, white natural	41	@	41½
No. 2, white clipped	42	@	42½
LIVE POULTRY.—			
Fowls, hens, per lb.	10	@	11½
Roosters, per lb.	7		
Spring chickens, per lb.	9	@	11
Ducks, per lb.	13	@	14
Geese, per lb.	13		
Turkeys, per lb.	14		
DRESSED POULTRY.— FRESH KILLED.			
Fowls, choice, per lb.	12½		
Chickens, nearby, per lb.	14		
Western, d. p., fancy, lb.	13	@	14
Spring turkeys, fancy, lb.	18	@	19
West. spring turkeys, per lb.	14	@	18
West. spring ducks, per lb.	13	@	15
West. spring geese, per lb.	11	@	13
BUTTER.—			
West. creamery 1sts to extra	23	@	25½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	24	@	27
Prints, Western	21	@	25½
Imitation creamery	17	@	20
EGGS.— QUOTATIONS—M, mark; L, loss off.			
Nearby 1sts, ret'bl crates, L	31		
Western 1sts, free cases, L	30	@	31
So. West., 1sts, free cases, L	29	@	30
So. choice, free cases, L	28	@	29
Refrigerator, firsts, M	26		
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	11½	@	11¾
Fair to good	10¾	@	11¼
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	13		
GREEN FRUITS.—			
Oranges, Fla., bright, box	2.25	@	2.75
Oranges, Fla., russets, box	1.75	@	2.50
Grape Fruit, per box	3.00	@	4.50
Cranberries—			
Cape Cod, large late, bbl.	7.00	@	8.00
Cape Cod, early Bl., bbl.	6.50	@	7.00
Cape Cod, early Bl., crate	1.75	@	2.00
Jersey, per crate	1.50	@	2.00
APPLES.—			
N. Y. Snow, per bbl.	2.75	@	3.25
Kings, per bbl.	3.00	@	4.00
Ben Davis, per bbl.	2.00	@	2.50
Greenings, per bbl.	2.00	@	2.50
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl.	2.00	@	2.50
POTATOES.—			
White, Pa., choice, per bu.	78	@	80
White, N. Y., choice, per bu.	75	@	78
Fair to good	65	@	70
Sweets, Jersey, prime bas.	30	@	50
do Jersey, 2ds, per basket	12	@	15
VEGETABLES.—			
Onions, Ohio Globe per bu.	75	@	80
Onions, N. Y., per bu.	50	@	65
Cabbage, Danish, per ton	35.00		
Cabbage, domestic, per ton	25.00	@	28.00
Cauliflower, L. I., per bbl.	2.00	@	3.00
Cucumbers, Fla., per bu.	2.50	@	3.00
Eggplants, Fla., ½-bbl. crate	2.00	@	2.50
String beans, 1-3-bbl. bas.	3.00	@	7.00
Tomatoes, Fla., per case	2.00	@	3.00
Lettuce, N. C. ½-bbl. bas.	1.25	@	2.00
BEANS AND PEAS.—			
Beans, mar., H. P., 1903, bu.	2.50	@	2.70
do mediums, H. P., 1903.	2.15		
Pea beans, H. P., 1903, bu.	1.95	@	2.12
Imported pea beans, per bu.	1.85	@	1.90
COTTON.—			
Cotton, per 100 lbs.	12.25		
FEED.—			
Bran, bulk, winter, per ton	18.75	@	19.25
Bran, sacked spring	18.75	@	19.25
HAY AND STRAW.—			
Timothy, No. 1, large	16.00		
Clover	10.00	@	12.50
Rye straw	19.50	@	21.00
Oat straw	8.50	@	10.00
Wheat straw	9.50	@	11.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle slow.			
Best steers	5¼	@	5¾
Good steers	4½	@	5
Medium steers	4¼	@	4½
Common steers	4	@	4⅛
Veal calves steady for best grades.			
Extra calves	8	@	8¾
Fair to good	6	@	7½
Poor and common	4	@	5½
Grassers	3	@	4
Hogs slow and lower.			
Fat hogs, Pa., Del. & Md.	5	@	6
Fat hogs, Western	6¼	@	6½
Sheep and lambs steady.			
Sheep, extra	4	@	4¼
Sheep, good	3¼	@	3¾
Sheep, medium	2¾	@	3
Sheep, common	1½	@	2¼
Lambs	4	@	5¾

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We will send The Practical Farmer and the Youth's Companion, both one year, and The Practical Farmer Almanac for 1904, all for only $2.50. The Youth's Companion is the best paper for the young folks published, and older people will find it interesting.

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NEW YORK MARKET REVIEW.

December 12, 1903.

Spot wheat was dull. Futures were fluctuating and inclined to be bullish on unfavorable reports of the winter wheat condition. English advices were unsatisfactory. The market for spot new corn was dull and irregular. Old corn is firm. Futures were bullish, largely due to Western advices. Oats were dull with free receipts and small demand. No change was reported in the local market for hops. Receipts of hay continue liberal and the market ruled weak in buyers' favor. Straw is strong owing to light receipts. Butter is quiet. Supplies are liberal. Extra creamery is in demand, but on all other grades the market is weak. There is a large amount of held butter on hand and holders are anxious to unload. Medium and under grades of fresh goods are coming into competition with the storage article. Cheese is very dull and there appears to be no snap to the buying interest. The quality of late receipts is very irregular, which develops a large variation in prices. Strictly fine eggs are in light receipt and firm. There has been some improvement in quality of shipments, and firsts are therefore in larger supply. Refrigerator stock is firm. Trade in live poultry is dull under large receipts. The market is still glutted with accumulations of dressed chickens and fowls and in some quarters the situation is demoralized. Speculators are still picking up turkeys and the finest stock is firm. Scarcity of refrigerator room is hampering the speculative buying, nearby refrigerators being packed. Good quality of apples are firm at quotations. Cranberries are weaker. Pears are unchanged. Grapes are steady but movement is light. The vegetable market is unchanged. The market is steady only on good stock; the remainder sells for about what it will bring. Receipts are not liberal but are enough to supply all requirements. The market for cotton was lower, the bear leaders selling freely.

WHEAT.—			
No. 2, red	89⅝	@	90⅝
No. 1, Northern Duluth	93		
CORN.—			
No. 2, yellow, old	51½		
No. 2, white, old	52½		
No. 2, mixed, old	52	@	52½
OATS.—			
No. 2, white	42½		
Standard white	41¾		
No. 2, mixed	40		
HAY AND STRAW.—			
Timothy, new, per cwt.	92½		
Timothy, No. 1	85	@	90
Clover	55	@	60
Straw, long rye, per cwt.	1.00	@	1.30
HOPS.—			
New York State, 1903, lb.	24	@	32
Pacific Coast, 1903, per lb.	18	@	27
German, 1903, per lb.	55	@	65
BUTTER.—			
Extra creamery	25		
West. extra factory	15		
State dairy	15	@	22
Packing stock	12½	@	14
Imitation	15	@	19
CHEESE.—			
State, f. c., Sept., small, fc'y	12		
Sept., good to prime	11	@	11½
Sept., large colored, fancy	12		
Light skims	7	@	8½
Full skims	1½	@	2
EGGS.— QUOTATIONS AT MARK.			
Nearby fc'y, selected white.	38	@	40
State & Pa., fancy	31		
State & Pa., seconds	27	@	29
Western extras	31		
Refrigerator	20	@	26
LIVE POULTRY.—			
Chickens, per lb.	10		
Fowls, per lb.	10	@	10½
Roosters, per lb.	7		
Turkeys, per lb.	12		
Ducks, West., per pair	80	@	90
Geese, West., per pair	1.50	@	1.62
DRESSED POULTRY.—			
Turkeys, fancy, d. p., lb.	18	@	20
Scalded, per lb.	15	@	16
Old, mixed, per lb.	15	@	16
Broilers—			
Phila., fancy, large, lb.	21	@	23
Western, d. p., per lb.	16		
Fowls—			
Ohio & Mich., scalded, lb.	11	@	11½
West., d. p., av. best, lb.	11	@	11½
Chickens, Phila., fancy, lb.	17	@	18
State and Pa., fancy, lb.	13	@	13½
State and Pa., poor, lb.	9	@	10
Spring ducks, nearby, lb.	15	@	16
Western, per lb.	14	@	15
Inferior, per lb.	10	@	12
Spring geese, Eastern, lb.	17	@	18
Squabs, per doz.	1.62	@	3.00
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl.	1.50	@	2.25
Spitzenberg, per bbl.	2.00	@	4.00
King, per bbl.	2.50	@	3.50
Greening, per bbl.	1.50	@	3.00
Tallman sweet, per bbl.	1.50	@	2.00
York Imperial, per bbl.	2.00	@	2.75
Pears—			
Kiefer, per bbl.	1.00	@	2.50
Miscellaneous, per bbl.	1.00	@	1.25
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, crate	2.00	@	2.50
N. Y., Concord, 4-lb. bas.	12	@	18
N. Y., Catawba, 4-lb. bas.	14	@	16
Wine grapes, black, ton	55.00	@	65.00
Cranberries—			
Cape Cod, bbl	6.00	@	8.25
Cape Cod, crate	1.75	@	2.25
New Jersey, per bbl	5.75	@	6.00
New Jersey, per crate	1.60	@	1.90
Oranges, Fla., bright, box	3.00	@	4.50
Oranges, Fla., russet, box	2.00	@	2.50
Grape fruit, Fla., per box	3.75	@	5.50
Strawberries, Fla., per box	50	@	90
POTATOES.—			
L. I., per bbl.	2.12	@	2.37
Jersey, per bbl.	2.00	@	2.25
Maine, per sack	2.10	@	2.25
So. 2nd crop, per bbl.	1.50	@	2.00
Sweet potatoes, Jer., per bbl.	1.50	@	3.50
Southern, per bbl.	50	@	1.00
VEGETABLES.—			
Carrots, per bbl.	1.00	@	1.25
Cabbage, domestic, per ton	20.00	@	30.00
Cabbage, danish, per ton	30.00	@	40.00
Tomatoes, Fla., per carrier.	1.50	@	2.50
Tomatoes, Cal., flat cases	1.00	@	2.00
String beans, Fla., per bas.	2.00	@	6.00
Squash, Hubbard, per bbl.	1.00	@	1.25
Squash, Fla., white, per bas.	1.00	@	1.75
Cucumbers, Fla., per bas.	1.00	@	3.00
Cauliflower, Cal., per case	2.00		
Celery, per doz.	10	@	50
Eggplants, per box	1.00	@	3.50
Lettuce, New Orleans, bbl.	75	@	2.00
Onions, white, per bbl.	2.00	@	3.50
Red, per 150 lbs.	1.50	@	2.00
Yellow, per 150 lbs.	1.50	@	2.00
Peas, Florida, per basket	1.00	@	4.00
Spinach, per bbl.	2.00	@	2.50
Peppers, Fla., per carrier	1.50	@	3.00
BEANS AND PEAS.—			
Beans—			
Marrow, 1903, choice, bu.	2.65	@	2.70
Medium, 1903, choice, bu.	2.10	@	2.12
Pea, 1903, choice, per bu.	2.05	@	2.07
Red Kidney, 1903, per bu.	2.80		
Lima, California	2.20	@	2.25
Green Peas—			
Scotch, 1903, bags, per bu.	1.15		
COTTON.—			
Cotton, spot, per 100 lbs.	12.25		

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AGRICULTURAL FERTILIZERS.

The market quotations of fertilizers and fertilizer materials are certain terms which may not be familiar. For instance, tankage or any other material containing nitrogen may be quoted at a certain price "per unit" of ammonia, and elsewhere you may find the price of potash salts or phosphoric acid as so much per unit. In the fertilizer trade these things are always sold by the unit, a unit being one per cent. on the basis of a ton, or twenty pounds of the ingredient named. A unit of ammonia, then, at $2.50 would mean that the ammonia is worth 12 cents per pound. Reduce this to nitrogen and you will find that at this price the actual nitrogen costs a little over 14.5 cents per pound. Then when muriate of potash or sulphate of potash are quoted 80 per cent. in the case of the muriate, it does not mean that there is 80 per cent. of potash, but of the muriate pure, which would make the actual potash 50.56 per cent. If high grade sulphate of potash is quoted at 90 per cent. it means that the actual potash in it is 48.6 per cent. In other words, to find the actual potash in muriate, multiply the percentage by 0.632. To get the actual potash in the high grade sulphate multiply the percentage by 0.54. The same rule will apply to the double manure salt or low grade sulphate of magnesia-potash.

AMMONIATES.			
Nitrate of soda, per cwt.	2.20	@	2.25
Sulphate ammonia, per cwt.	3.10	@	3.20
Tankage, per unit ammonia.	2.10	@	2.20 and 10
Dried blood, N. Y., low grade	2.65	@	2.70
do West., high grade, fine ground	2.70	@	2.75
Fish scrap at N. Y.	2.60 and 10		
PHOSPHATES.			
Acid phos., 12-16 p. c., unit	60	@	67½
Bone black, per ton	18.00	@	19.00
Ground bone per ton—			
Steamed, f. o. b., Chicago.	21.50		
Raw, f. o. b., Chicago	24.00		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	32@34
X	29@30
Medium	31@33
Quarter blood	30@31
Common	27@29
UNWASHED (light and bright.)	
Fine	22@24
Medium	23@24
Quarter blood	23@24
Coarse	21@22
UNWASHED (dark colored.)	
Fine	17@19
Fine medium	18@20
Medium and quarter	19@21
Coarse	18@19
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	34@36
Washed medium	33@34
Washed low	31@33
Washed coarse	29@31
Unwashed medium	24@25
Unwashed quarter blood	24@25
Braid	22@23

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie Wis., to whom all communications relative to the department should be addressed.

Editorial Chat.

We notice the Business Management will send The Practical Farmer and the Youth's Companion both for the coming year, and The Practical Farmer Almanac for 1904, all for $2.50. We wish every family represented in the Home Circle would take advantage of this combination, because we believe that the Youth's Companion ought to be read by every Practical Farmer boy and girl. The opportunity to get both papers at a reduced price and the Almanac put in for good measure, should not be lost.

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So many flower cranks have developed lately that we are obliged to lay some of the kindly offers over for next season. We only care to engage four each year, and have accepted the first ones offering. Of course, if all wrote it would be none too many, but we can only offer the four subscriptions. Two of those selected for this year are from among the brethren. Thomas Barsler of Glen Ivy Farm, Ponca, Okla., purposes to write of wild flowers, and E. Hollenbeck, of Davison, Mich., will give us some talks on diseases of flowers and "other green things growing." We shall use all floral articles sent in unless accompanied by stamp and request for return. We think, however, none of our Home Circle family will do this. We believe all are willing to contribute to the general good whether paid for it or not.

• • • • • • • •

A sister asks for advice concerning her piano. Says it is marred around the pedals, and describes it as a "black, painted case." We consulted an authority on the matter. He said, however, that he never heard of a painted one; thinks she must mean enameled or else it is an ebony case. If the former, sandpaper the spots and edges about them, then carefully apply an enamel of same shade. If the joining does not look right when dry, rub well with a bit of flannel dipped lightly in sweet oil. Our advice would be, however, to get a man who understands his business to attend to the matter. It may be cheaper in the end, and will be done right.

• • • • • • • •

Another reader asks for the poem, or the knowledge where to find it, containing this line:

"Let me live in a house by the side of the wood."

Fost is the name of the author given. So far we have utterly failed to find any trace of it. Perhaps someone can send a copy.

Does your subscription to The Practical Farmer expire with the Dec. 26th number? If so, you must send your renewal subscription now in order to get the Jan. 2nd number. All subscriptions expiring Dec. 26th and not renewed will be cut off at that date.

We will send The Practical Farmer and the Woman's Home Companion both for one year for only $1.50. The Woman's Home Companion will be a welcome visitor in every farm home to which it is sent.

The mother who wants "good but inexpensive books" for her "large family" will find an answer in "Our Book Table."

• • • • • • • •

Ellen Kinney, Brockport, N. Y.—one of our shut-ins—has long desired to do something for the little ones at the Christian Home, and now she urges that she be allowed to piece, with her mother's help, a couple of quilts. Of course she has no material, but if the sisters will send worsted scraps and old bits of cotton to line the blocks, she will delight in making a worsted quilt. Besides, she and her mother would gladly piece a calico one if scraps are sent. Her mother seems to feel that doing the work will relieve that tedium of the long winter, and our shut-in sister is always better in winter than summer. Send scraps at once, please. A few cents put in a package would buy the thread. Certainly the quilts are needed where there is such a family as at Connell Bluffs, and if the work will amuse and interest Miss Kinney, the blessing will be two-fold.

• • • • • • • •

Among the many replies coming in to our request for suggestions concerning the betterment of the Home Circle, we can only give a few, but these are fair samples of the rest:

Miss Lizzie Biddle, Pulaski, Pa., writes: "We think the Home Circle all right, especially the editorials. Would want no change, except that there be more of it."

L. W. Davis, Enfield, Mass., writes: "There is much to commend in The Practical Farmer and little to find fault with. The first reading is the 'Health Hints,' and then the Home Circle. The H H have been of great benefit to me; hope they will be continued. Am also interested in the shut-ins, wish we could do more for them. Anything to bring comfort and cheer into their lives. Sincerely hope you will, through the Home Circle, let us travel with you in Germany. It will certainly be a great treat for some of us. Consider myself a member of the H. C. I. S., as I spend annually several dollars for shrubs and flowers."

Mrs. Chas. Bruns, Garnett, Kan., writes: "Dear Mrs. Melville: The stories, articles, papers and letters cannot be improved; there is not a column in this department that is not full of good, wholesome truth, if we but look at things in the right way. Indeed, it is as a table full of good viands placed before us, each article carefully prepared and excellent in its way. But it remains with us to partake of these according to digestive powers (mentally) so our thoughts do not acquire an acidulous disease, dyspepsia, namely, ill feeling toward each others opinions. In regard to making the department better (?) may I give these suggestions? I think the dish called 'Correspondence' entirely too small. Now, do not think I wish to crowd out the other enjoyable viands, but let me whisper this, 'Can't we have the advertising space in our department for correspondence and other good reading?' Advertisements are all right in their place, but is it necessary to give them so much of our department? What do you think of this, sisters? This paper goes far and wide over this country. Many of its readers are in new countries making themselves homes; neighbors two and three or more miles away; they receive their farm paper on Saturday, and no letters from anywhere; the young wife is home sick, longing to hear from mother; the young husband is in need of father's advice; the mails, perhaps, are delayed, and nothing but The Practical Farmer is there. This is a very common case, dear friends, only the facts may have little different settings. Now, which do you think is preferable, a good, newsy, homey letter or a double column of pictured advertisements? The Practical Farmer plays a very vital part in many of our isolated homes. Indeed, some would be surprised if they knew what The Practical Farmer means to many, many people. Therefore, does it not behoove us to put the sunshine of pleasure into these isolated lives? Our experiences are very interesting to each other. Grandparents from foreign countries, tell us of your youthful days in the home land. How delightful these tales would be for the Youths' Parliament, and instructive, too. Use this suggestion for the New Year numbers. Pioneers, won't you tell us of your first, or any, experiences in the Western countries? Let us have a happy New Year number."

[We heartily endorse all this sister says, only we know that the advertisements must stay with The Practical Farmer or any other publication if it be of any account. They bring in the money that makes all the rest possible. The simple subscription price of any paper could never keep it afloat. The cost of publishing each issue of The Practical Farmer is enormous. The bare figures would stagger some of us who never see that much money in a lifetime, scarcely. We wonder if you all know that just the outside cover of the ordinary illustrated poultry journals ofttimes costs up into the hundreds. As we say, but for the income derived from advertising no such paper as The Practical Farmer could long exist so while we "begrudge" the space in our Home Circle, let us be thankful that it is there; and sometimes right in those objectionable "ads," there may be a small fortune hidden for some of us. Very often one can do better to trade with parties like these than by going elsewhere. Surely one saves the money that goes to the "middleman." But all write and we will see that there is room for it. Must save the rest of the comments until another time. We thank all who responded; it shows you are heartily interested in the Home Circle.

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This is the very best time in the whole year to help The Practical Farmer and help yourself at the same time. We mean by making up one of those Blocks of Six, thus helping the paper, and obtaining one of the premiums, thus helping yourself. Why, every boy and girl who reads the Home Circle ought to make up one of these blocks. The neighbors are planning for the next year's reading, and they will be more than ready to listen to your good word for The Practical Farmer. You offer them the paper at just half the regular price and see how quickly they'll snap at the bargain. We suggest that you make up your mind to get one of those Practical Farmer Fountain pens as a premium. If you never had such a pen you don't know what a pleasure you will find one. The Practical Farmer pens are as good as the best, and you can get one for half a day's work among your neighbors.

• • • • • • • •

And now we wish you all—management and readers, new and old, a Merry Christmas and Happy New Year.

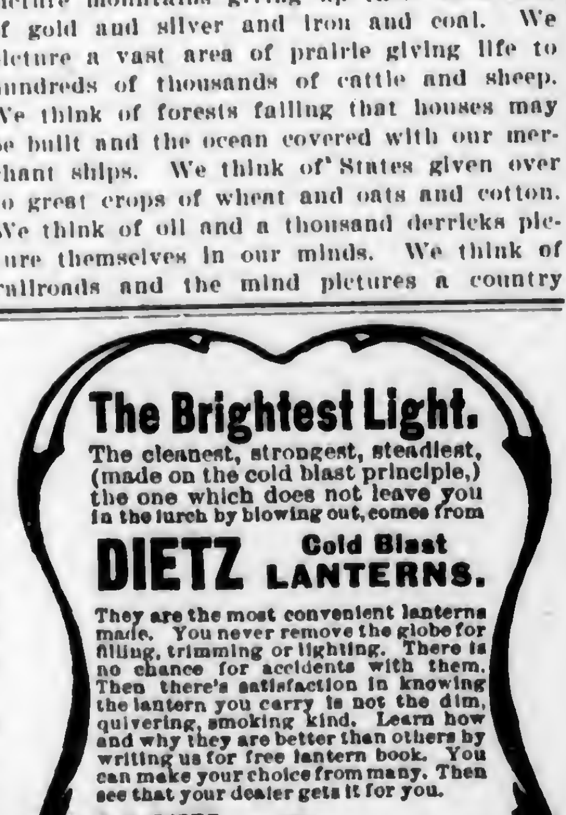
FIFTY CENTS
A MONTH

A small bottle of Scott's Emulsion costing fifty cents will last a baby a month—a few drops in its bottle each time it is fed. That's a small outlay for so large a return of health and comfort.

Babies that are given Scott's Emulsion quickly respond to its helpful action. It seems to contain just the elements of nourishment a baby needs most.

Ordinary food frequently lacks this nourishment; Scott's Emulsion always supplies it.

We'll send you a sample free upon request.
SCOTT & BOWNE, 409 Pearl Street, New York.


The Brightest Light.
The cleanest, strongest, steadiest, (made on the cold blast principle,) the one which does not leave you in the lurch by blowing out, comes from
DIETZ Cold Blast LANTERNS.
They are the most convenient lanterns made. You never remove the globe for filling, trimming or lighting. There is no chance for accidents with them. Then there's satisfaction in knowing the lantern you carry is not the dim, quivering, smoking kind. Learn how and why they are better than others by writing us for free lantern book. You can make your choice from many. Then see that your dealer gets it for you.
R. E. DIETZ COMPANY, 85 Laight St., New York. Established 1840.

"REVERSIBLE" Linene Collars & Cuffs
There's No Laundry Bill
You discard when soiled. Your linen always has the bright new appearance, never yellowish or worn when you use
"Linene."
It takes a close inspection to detect the difference between the fabric they're made of and real linen. Double wear in lay down collars. Ten collars or five pair of cuffs by mail for 30 cents, if you don't find them at the store. Send us 6 cents in U. S. stamps for sample collar or pair of cuffs.
Be sure you name Size and Style.
Reversible Collar Company, Boston, Mass. Dept. L

MRS. WINSLOW'S SOOTHING SYRUP
has been used by Millions of Mothers for their children while Teething for over Fifty Years. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa.
TWENTY-FIVE CENTS A BOTTLE.

BANK BY MAIL.
4%
A Safe and Profitable place for your money is an Investment Account with this bank—pays Four per cent. compound interest on all amounts from One Dollar up. Our Banking by Mail system brings our Bank to your postoffice. Write to-day for explanatory booklet F4
PITTSBURGH BANK FOR SAVINGS
SMITHFIELD & FOURTH AVE.

Prize Article.

The Little Things That Count in Life.

MRS. MAGGIE ADAMS.

A great Italian artist first noted that only three times did Christ stretch forth his hand to build a monument, and each time it was to immortalize a seeming little thing. Once the giving of a cup of cold water to one of Christ's little ones, once a woman broke an alabaster box of ointment for her Master, and once a widow cast into the treasury of the temple the small sum of two mites. (Adapted from N. D. H.)

In immortalizing these He also immortalized the thought that it is the little things that count in life.

It was a great day in Jerusalem. From all over the Jewish world the pilgrims had been going with hurried feet to the centre of attraction—the Temple of God. From Ephesus and Antioch, from Alexandria and Rome great caravans had been pouring into Jerusalem. Merchant princes with a great retinue of servants, wealthy men with great trains of slaves laden with silks and gold and silver and precious stones. A cavalcade of lesser lights, from a worldly standpoint, the rabble, the masses as they were called.

Into the temple pours this great stream of humanity. A wealthy man of Alexandria, followed by a train of servants, approaches the treasure box of the temple. With a loud noise his contribution of gold and silver strikes the table. Another follows, to the delight of an admiring crowd, and on and on they come, until the treasure chest is filled with their gifts. And now come the lesser lights. The interest of the crowd wanes. At last comes a lone widow. Timidly she approaches the treasury and quietly she drops into the great chest two small mites, unnoticed by the vast crowd that but a moment before had stood with open mouthed amazement as the princes had of their abundance made the treasure chest ring with the weight of their contributions.

The great temple with its magnificent display of wealth has fallen to decay. Back to the elements have gone the altars, the curtains, the rich hangings, the massive columns, the porches, the gilded domes, the treasure chest, but the simple deed of an obscure woman has lived through the centuries. Time has not lessened the glory of her immortality. Poets have sung her praises; painters have perpetuated the scene. The world's preachers have used her simple act as an inspiration to thousands. God, Himself, has raised a monument to her memory and upon it He has inscribed: "This poor widow hath cast more in than all they which have cast into the treasury: For all they did cast in of their abundance; but she of her want did cast in all that she had, even all of her living."

The world passes unnoticed the little things in life. This is especially true of our own country. The age is too fast for the consideration of little things. We think of our territory only as a vast expanse stretching from ocean to ocean, from Canada to Mexico. The mind sweeps the ocean and we count our island possessions. It sweeps the half of a continent and we include Alaska.

We think of population and we think only in millions. We think of resources and we picture mountains giving up their substance of gold and silver and iron and coal. We picture a vast area of prairie giving life to hundreds of thousands of cattle and sheep. We think of forests falling that houses may be built and the ocean covered with our merchant ships. We think of States given over to great crops of wheat and oats and cotton. We think of oil and a thousand derricks picture themselves in our minds. We think of railroads and the mind pictures a country covered by an immense gridiron. We think of electricity and we see a great web of wires from the Atlantic to the Pacific, and from Canada to Mexico. We think only of great things and we have even forgotten the small beginnings of these great things.

We have forgotten the band of liberty-loving pilgrims who landed on our Eastern coast and who have made our vast expanse of territory possible. We forget the statesmen and the warriors who have added to the thirteen colonies the expanse of territory that makes our country. We forget the pioneer who in the face of danger discovered to the world the possibilities of the Western prairies and Western mountains and forests. We forget the struggles of Morse and Edison as we view the results of their labors in the electrical world. We forget Watt as he studies the tea kettle and realizes the power of pent up steam when we contemplate the great railway systems of the nation. We forget the obscure inventor as he spends days and nights studying out some great principle that he would apply to the convenience and comfort of the world. All these are little things, we say, and we are accustomed to think only of the great. And so we think of men. The great men occupy our thoughts. A Dewey or Schley, a Grant or a Lee, completely overshadow the men who have left fireside and loved ones to lay themselves upon the altar of their country. Forgotten the lonely picket. Forgotten the youth who in the enthusiasm for liberty faces a belching cannon. Forgotten the pride of somebody's heart who bared his breast and received a mortal wound upon the field of battle. Forgotten as he lies upon the ground in a lonely thicket pouring out his life blood upon the ground and thinking of home and mother. Forgotten as his brave spirit wings its flight to its eternal home. Forgotten? Why? He was a little thing compared to a great victory won. We crown the general with our laurel wreaths, We forget the private soldier who made victory possible. We think of the man who startles the world with the brilliancy of his mind. Forgotten the mother who through his school days robbed herself of necessities and comforts, who lived upon half a loaf and deprived herself of the new dress that her son might gain knowledge. We think of the man whose eloquence rings in the halls of Congress or upon the floor of the Senate, or who reaches the highest seat of honor in the gift of the nation. Forgotten the mother who made it possible by her training, her suffering, her sacrifice, her prayers.

Forgotten! But not by the God of Heaven. The silent fidelity of the lonely pioneer, the private soldier, the sacrificing mother, thunders through the courts of Heaven, and to each of them God raises a monument more lasting than granite or bronze: "They have done what they could. Well done good and faithful servant."

It is the little things that indicate character. Napoleon may startle the world and make the boundary lines of nations oscillate under the tread of his mighty army. His name may go down through the pages of history as a master of the art of war. His plans of battle may serve as models for the generations that follow him. The forces he set in motion may exert an influence for centuries after his bones have mouldered in the grave, but his treatment of Josephine will forever brand him as a weakling in the stronger marks of manhood.

The little things in the home life indicate more strongly the character of men and women than the great things done in public. A man may show his wife and children every consideration in a crowd, but if he snaps and snarls at them at home, it is there he reveals his true character. Have known women who would shed tears as they spoke of the hard working husband, his toils and sacrifices for the comfort of the family, who made home a perfect hell as soon as the husband came in from a hard day's work.

A man may fill his home with costly furniture, he may buy his wife a piano, he may lavish his table with the best in the market, and then forget the little courtesies that make life worth living. He may forget the caress that he gave so readily in the days of the honeymoon. He may forget the goodby kiss as he leaves for his work, but he must not forget that it is the little things that count in the home life, and that pianos and fine furniture cannot take the place of the kind word and the caress.

In the corner of a window of an English palace may be found faint lines scratched with a lady's diamond. There are two words: "My Prison." Lady Jane Grey as a sweet girl entered that palace with leaping heart. Her's were titles and lands and jewels and castles and maids of honor and dresses. But these things could not buy happiness. She wanted the caresses of a husband and the kind word. Her lord had not time to break the alabaster box of love upon her white forehead. He was too busy or too thoughtless to stop and caress the sweet girl who had come to share his life. So in a corner of the window she recorded the tragedy that wrecked her life. "My prison" reveals a broken heart, a saddened life. For one caress she would have given all.

It is the little things that count in life, to make it happy or to blast it. One sour face will wreck the happiness of a home. One tattler will destroy the peace of a community. One liar will blast the reputation of a saint. One growler, one grumbler will set in motion a movement that will destroy the best laid plans of a dozen people.

What are you doing for the world? Are you making it better or worse by your life? We are still dealing in big things and letting the little things go by. We are dealing with masses. Carnegie, we say, is building libraries. Another rich man erects a hospital. Another provides a home for the aged. Another cares for a hundred orphans. These of their abundance are casting gifts into the treasury, what are you doing with your mite?

The man or woman who speaks a kind word to one in trouble, is casting a mite into the treasury of the Lord. The man who pats a little child on the head and speaks kindly is casting in mites. The man or woman who deprives themselves of some pleasure for the sake of another, who, for instances, refuses to go to the theatre because it may lead others there who are weak in the faith, is casting a mite into the treasury of the Lord. The man who meets you with a smile, who takes your hand warmly, who speaks kindly and wishes you well, who refuses to listen to a reflection upon your reputation, who seeks to help you to succeed, is casting mites into the treasury of the Lord, and to him God, Himself, will build a monument upon which will be written: "Well done good and faithful servant, thou hast been faithful in a few things, I will make thee ruler over many things, enter thou into the joy of thy Lord."

Texas.

Does your subscription to The Practical Farmer expire with the Dec. 26th number? If so, you must send your renewal subscription now in order to get the Jan. 2nd number. All subscriptions expiring Dec. 26th and not renewed will be cut off at that date.

We will send The Practical Farmer and Success, both for one year, and The Practical Farmer Almanac for 1904, all for $1.50. Success is a magazine that every young man and young woman who want to push their way in the world, should read.

Our Book Table.

VELMA CALDWELL MELVILLE.

There is no better gift, as we have said, than a book at Christmas, but not all can afford those of expensive bind. We are reminded of this by the fact that not one, but many mothers are asking for "cheap books"—not cheap in the contents, but in the bind. To such we unhesitatingly recommend the book series published by David C. Cook, Elgin, Ill. These stories have always been favorites of ours, as each, in its simplicity and purity teaches a valuable lesson. No one, young or old, but is benefited and helped to a better everyday life by reading them. Of those we have read, "Titus, A Comrade of the Cross," is most appreciated. Concerning it the author writes: "The purpose of the book is to present the life of Jesus upon earth in such a way as to give a fresh interest to the 'old, old story;' to bring the Jesus of nearly nineteen centuries ago into our lives today—a real, living Jesus."

It is a beautiful story, with Christ as the central figure, and Titus, one of the malefactors, who was crucified with him, a companion on the cross. Give this book to one of the older children, or it is appropriate for any adult. For your boys, there is "The Transformation of Job," "The Isle of the Lake" and "A Star in a Prison." For the young girl there is "A Devotee and a Darling," "Paula Clyde," "Ruby." "The Transformation of Job," is a fascinating story of a boy in California, showing how easy is the downward road, but not leaving its hero until he once more has his feet planted on the rock. "A Star in Prison" is a Canadian tale of a young man unjustly imprisoned. "The Isle of the Lake" is an outing story for boys. The author, William Goss, concludes his preface with, "If by reading the following simple story of peril and adventure, your purpose to do right is strengthened, and you are encouraged to be always true and manly in your conduct, my purpose in writing it will be accomplished." The girls' stories tell of how other girls sometimes make mistakes and failures, but encourage us by showing how they conquered. Now, these books are only 25 cents apiece, library binding, which means good paper, cloth back and corners and ornamented sides. They are handsome and durable. At the same figures one may get "Beside the Bonnie Brier Bush." All difficult Scotch words are translated so some of us can understand it better. It is one of the books we always recommend.

We have a number of these books on our shelves and prize them as highly as any others. There is one more book, and with mention of it the "Christmas Drawer" must close for this year. If you want an exceedingly handsome book in white and gold, everything about it up-to-date, get for one of the children, "The Hunting of the Snark." Its poetical contents are drawn from "Rhyme and Reason," "Alice's Adventures in Wonderland," "Through the Looking Glass" and "Sylvie and Bruno." There are 40 full-page illustrations, and comical? Well we should say; never saw anything like it. When we name the price—$3—you will understand that here is a chance to get an exquisite holiday gift. It is especially adapted for little children, though handsome enough in make-up for a princess of the blood. To all who especially delight in stories of fairies, gobblins and wood nymphs, this book will appeal.

"My father was a Brownie, sir;
My mother was a Fairy.
The notion had occurred to her
The children would be happier
If they were taught to vary."

It seemed it fell to the one telling the story to be a phantom. He says:

"My phantom-life was soon begun;
When I was barely six,
I went out with an older one—
And just at first I thought it fun,
And learned a lot of tricks."

Sabbath Reading

MRS. R.

The people were gathered together in groups, talking eagerly, some laughing, some sneering. A man called Christ, was entering the city, the son of David. The groups of people drifted together and soon a great multitude was formed as Christ entered the city. Garments were cast in his way; those that had not the garments, cut branches off the trees and cast before him. One look into the beautiful, gentle face and the multitude shouted: "Hosanna to the Son of David; blessed is He that cometh in the name of the Lord. Hosanna in the highest."

In the shade of a wall lay a half naked child, his face pinched with suffering; for the twelve years of his life he had moved only when his mother, a strong woman, had carried him in her arms. Now she appeared in the gateway. "Azor, my boy, thou shouldst not be by the roadside longer. I hear the rabble of the multitude; perhaps the Roman prince is riding among the people and they will trample upon thee, while I go to the well to bring water."

She lifted the boy in her arms and sat him inside the gate. "Oh, mother," sobbed he, "if only I could go and bring the water for thee." "Hush, my child, see thou art growing stronger. Thy back supports thee against the wall." He sat as his mother left him. What did it all mean, the noise in the temple yonder? The cry of the people was like distant thunder. His mother immediately returned, and ran swiftly to him and lifted him up, talking eagerly as she ran.

"Azor, my boy, thou shalt be made well. The Christ hath entered the city; he maketh the blind to see, the lame to walk, and healeth the sick. The multitude is great. I fear we will not get to him," she added anxiously. Half carrying, half dragging the child, she went along the hot, dusty road till they came to the temple. Still holding him she pushed through the surging throng, she staggering along, dealt blows by many, till with the others, the blind and afflicted, she stood in the presence of Jesus. She laid her burden at His feet, and Azor, with many others, was made whole. He stood beside his mother, filled with praise, delirious with joy, and shouted the refrain: "Hosanna to the Son of David," which was taken up by the throng in a mighty shout that shook the walls of the temple. The chief priests rebuked them and were displeased. But Jesus saith unto them: "Yea, have ye never read, that out of the mouths of babes thous hast perfect praise?"

Boyd Co., Ky.

Free Holiday Games
60 different games—one in each package of
Lion Coffee

THE YOUTH'S COMPANION.
52 issues in the year.
Subscription price $1.75.

ENTERPRISE FOOD CHOPPER Makes better food possible. Catalogue free. ENTERPRISE MFG. CO. OF PA., Philadelphia, Pa.

Insist on getting The Buckskin Brand made of real rubber. MONARCH RUBBER COMPANY, St. Louis, Mo.

SALZER'S Seeds Never fail. Send 10c. for catalog and rare seed samples worth $10 to any farmer. JOHN A SALZER SEED CO., La Crosse, Wis.

RURAL MAIL BOX FREE. To the first person sending us the address of any one canvassing for a new route we will give an approved, galvanized, steel mail box free. BOND STEEL POST COMPANY, ADRIAN, MICHIGAN.

An Enthusiastic Admirer of the "1900" BALL-BEARING FAMILY WASHER.

Chicago,
Nineteen Hundred Washer Co.,
Binghampton, N. Y.

Last week I started to wash with your "1900 Ball-Bearing Washer." A neighbor saw me wash my little boy's waists (which were terribly dirty) and in ten minutes I wrung them out, and we were very much surprised to see that there was not a spot left. On Monday we did a big wash of fifteen machinefuls of clothes in four hours. The lady living upstairs saw that we turned out so much work in such a short time, that she asked us to loan her the washer for Tuesday, which we did. She has a washer, which she could never use, as it took a man to turn the machine. The "1900" is by far the best machine I ever saw. It works so easily that my little boy can run it. You are at liberty to refer anybody to me for further proof.

Mrs. A. H. Centner,
66 Diversey Boulevard.

THE "1900" BALL BEARING FAMILY WASHER SENT FREE

to any one answering this advertisement, without deposit or advance payment of any kind, freight paid, on 30 days trial. The 1900 Ball-Bearing Washer is unquestionably the greatest labor-saving machine ever invented for family use. Entirely new principle. It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery. It revolves on Bicycle Ball Bearings, making it by far the easiest running washer on the market. No strength required, a child can operate it. No more stooping, rubbing, boiling of clothes. Hot Water and soap all that is needed. It will wash large quantities of clothes (no matter how soiled) perfectly clean in 6 minutes. Impossible to injure the most delicate fabrics. Write at once for catalogue and full particulars to the

"1900" WASHER CO.,
23 E. State St., Binghamton, N. Y.
References: First National Bank, Binghamton, N.Y.

The Old Fashioned Paint that never chalked, cracked or peeled was made from pure White Lead mixed with pure Linseed Oil. NATIONAL LEAD CO., 100 William St., New York.

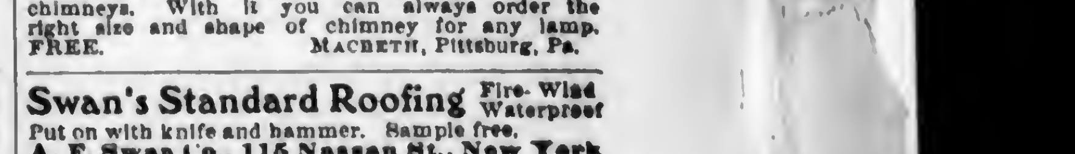
Saved From Blindness.
Illustrated book on eye diseases sent free.
OREN ONEAL, M.D., Suite 913, 52 Dearborn St., Chicago.

IT WILL PAY YOU
To investigate. Send for catalogue No 194 and prices.
Kalamazoo Stove Co., Kalamazoo, Mich.

GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers. KIRTLAND BROS. & CO., Dept. GD, 90 Chambers St., New York.

Our "Index" describes *all* lamps and their *proper* chimneys. With it you can always order the right size and shape of chimney for any lamp. FREE. MACBETH, Pittsburg, Pa.

Swan's Standard Roofing Fire- Wind Waterproof
Put on with knife and hammer. Sample free.
A. F. Swan Co., 115 Nassau St., New York


No Smoke House. Smoke meat with KRAUSERS' LIQUID EXTRACT OF SMOKE. Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. E. Krauser & Bro., Milton, Pa.

$45 TOLMAN RANGES $23.75
with reservoir and high closet. Great Foundry Sale
We ship range for examination without a cent in advance. If you like it pay $23.75 and freight and take range for
30 Days FREE Trial.
If not satisfactory we agree to refund your money. Tolman Ranges are made of best wrought steel. Oven 17½ x 21 in. Six 8 in. holes. Best bakers and roasters on earth. Burn anything. Asbestos lined flues.
Guaranteed 5 years.
Will save their cost in fuel in One Year. Write today for our new Catalogue.
JUDSON A. TOLMAN COMPANY,
Dept. W 26 66 Lake Street, Chicago.

ADVICE TO MOTHERS
Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmers' Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh, N. C.

Topic No. 605, Jan. 2. — *How Should a Heifer be Fed and Treated to Make Her a Profitable Cow, and at What Age is it Best to Breed Her?*

Topic No. 606, Jan. 9.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 607, Jan. 16.—*Have You Found it More Profitable to Spread Straw and Clover Chaff on the Wheat Fields or to Use it all in the Manure?*

Topic No. 608, Jan. 23.—*Have You Found Currants and Gooseberries Profitable Garden Crops? If so, Give Your Experience in Their Cultivation and in the best Varieties for Market.*

Topic No. 609, Jan. 30. — *Which Breed of Cows is Best for the Farmer who Simply Keeps Them to Supply His Family and Have a Little Butter and Milk to Sell at Times?*

Topic No. 610, Feb. 6.—*Give Your Experience with the Celery Crop, Varieties, Storing and handling for Market.*

Topic No. 603.—Give Your Experience in the Raising of Geese and Pekin Ducks.

C. A. Harrington, So. Weymouth, Mass.—I have been a breeder of Pekin ducks and geese for the last 8 years in a small way. I will first take up Pekin ducks. The first thing to do in starting duck raising is to have good breeding ducks; that is, ducks that will weigh 6 pounds or more, as it is just as easy to raise the large breeds as the small ones, and it will cost no more. I generally start in by giving my ducks scraps and feeding well by the last of November, so as to get them into condition to start in to lay in January, but it is pretty hard to get any eggs before February. Then it takes four weeks for the eggs to hatch. The first eggs are always very poor and seldom will hatch, so I always sell my first eggs for eating, as they always bring good prices. After hatching, which I always do by incubators, they are put in the brooder and allowed to go out of doors in pleasant weather, being very careful to keep them in in wet weather, as rain will kill them. In the way of feeding, the first two weeks I feed them mostly waste bread, meal and mixed feed boiled, and after that I add some scraps, always feeding soft food, keeping drinking water for them when feeding. At the end of ten weeks the ducks should weigh about four and a half to five pounds. In New England the early ducks bring 25 to 28 cents per pound. In raising geese I prefer the Toulouse, as they are hardier, larger and the best for the farmer to raise. I hatch all of the goose eggs by hens and the geese themselves. In dressing them off they weigh from 12 to 15 pounds each. I think that there is more money in raising geese than there is in ducks or hens. I never have any trouble in marketing all I can raise, at 25 cents per pound dressed.

Mary V. Kirkpatrick, No P. O.—We have tried White Pekin ducks and geese and prefer the geese. They are less trouble, less susceptible to disease and eat less than ducks. Duck eggs, as a rule, hatch better than goose eggs, but goose eggs will do just as well if they are washed in warm water every alternate day for a week before they hatch. We set one goose on nine eggs, and when they hatch put the goose in a chicken coop fixed so that the goslings can run in and out at pleasure. Kept up thus till half grown all will live. We set our duck eggs under chicken hens and took the best care of them. But in two weeks we lost 125 ducks, almost grown. Never let goslings or young ducks run to water to swim, but give them water in a shallow basin.

Irwin G. Miles, Berwindale, Pa. — We bought six eggs of the Pekin ducks and from them raised five ducks. Kept a pair of them and lost the drake. Got another drake and raised three ducks and could get but 25 cents apiece for them. Bought some goose eggs, but they failed to hatch, so we have had poor luck with ducks and geese. It takes too much feed to make them pay at the price they sell for.

Paul D. Converse, Morristown, Tenn.—A few years ago we tried to raise ducks in a small way. They laid well. We hatched about 20 under hens. Tried to raise them by hand. They did well until half grown and then began to die. When grown the dogs—not ours—almost exterminated them and the old ones, too. We finished them. Then we got 65 Pekin duck eggs. Started them under hens and finished in the incubator, which was not working well, and hatched about 20. They did well until we turned them out with the hens, when they ate a lot of rose bugs and all died from the effects. Altogether, I think ducks are about the most foolish of fowls. Have had no experience with geese.

Walter Hickman, No P. O.—I have raised a great many geese, both Embden and Toulouse. The Embden having white feathers, sell the best, but I prefer the Toulouse. They grow to a large size, are easily fattened and make fine show birds. I set the eggs under chicken hens and let the young ones run with the hen for a week or two if weather is cool. If warm I do not have the hen with them. Feed on corn meal dough. At first feed every two hours and when two weeks old feed three times a day. Pick feathers of adult geese every six weeks. Keep goslings away from ponds or streams until full feathered. The same rules apply to Pekin ducks, except that their feed should be stale bread soaked in water or sweet milk. A pond is not necessary for geese or ducks. A bucket of water is sufficient.

W. C. Crook, Middle Fork, Tenn.—We had a limited experience with ducks and did not find them profitable. Mother raised geese, but unless one is well prepared for the business there is little profit in them. They were very troublesome, and we could hardly keep stock water decent on account of them. When the goslings came the watch dog went for them and we soon found that we could not keep geese and dogs, too, so we sold the geese, as I prefer the dogs.

C. C. Beals, Russiaville, Ind.—I do not think that it pays to raise ducks or geese unless one has a place suitable for them, with plenty of running water. We have tried raising ducks on a dry place without running water. They did well for a while, but finally took a strange and fatal disease, and by Christmas we had but one left, and it was killed by a dog before spring. Where one has plenty of water and ground and can keep them free from vermin, he may succeed with geese and ducks. One cannot keep geese with other stock to advantage, as stock will not eat the grass where they have run. Ducks are not quite so bad, but they are bad enough. Where either are raised, they should have a lot separate from all other stock and fowls.

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We will send The Practical Farmer and your choice of either Hoard's Dairyman or W. J. Bryan's Commoner, both for one year, and The Practical Farmer Almanac for 1904, all for only $1.50. Everyone interested in the dairy ought to read Hoard's Dairyman. The Commoner will be a weekly reminder of Wm. Jennings Bryan to his admirers.

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E. E. Lawrence, Spafford, N. Y.—We hatch our duck eggs under hens, as a Pekin duck seldom sits long enough to bring off her brood. A hen will mother them as well as chickens, though they pay little attention to her, but go where they please. We keep them with only water to drink until several weeks old and then let them go to the pond. Pekin ducks are easy to raise, and grow fast if well fed. With geese it is best to let the old goose hatch and raise the family.

Allen A. Oberlin, Cordova, Md.—One goose laid 21 eggs, hatched 17 goslings and raised them. But the average is 11 eggs. Use 11 for a sitting and you will come out even. We find the Toulouse variety best, weight 18 to 20 pounds; will net $2 per head. Have raised 41 this season. After six years experience in raising geese, on the Eastern Shore of Maryland, and found that each hatch of young goslings must be kept separate with their mother several days, or long enough for them to learn to know her; otherwise they will all pile up under and around one mother goose, the stronger crushing the weaker ones. Also, each mother goose will realize she has something to fight for, and she is amply able to battle with the hawk and crow, and protect her little ones from injury. When a goose is hatching, if restless, remove her young in the evening, preventing them from being crushed by the mother goose, or the weaker by the stronger ones. If she is a quiet goose don't disturb her; don't try to feed the goslings, they won't eat; put them out on the short, tender grass; you will be surprised at their rapid growth. Never tried the Pekin duck.

N. D. DeVane, Tomahawk, N. C.—Our experience with Pekin ducks is not very favorable. Several years ago when they were very scarce, and their eggs sold anywhere from $2.50 to $5 per dozen, we obtained a dozen Pekin duck eggs from a friend at a reduced rate and put them to set under a chicken hen. One of the eggs broke before hatching time, but the other 11 eggs hatched all right. In a few weeks we lost three of the little ducks. We raised the balance. They grew fast and were very pretty. Being afraid to let them roam about over the farm, for fear that something would destroy them, we kept them in our front yard, and being told that a place for them to swim in was indispensable to their health, and not having any pond or branch near our house, we fixed them a swimming place in the yard, and the thousands of buckets of water we drew for those ducks to swim in during the year would surprise you. We would put fresh water in their little pond three times a day. It soon got so that we had to feed them at night as well as in the day. We fed them very high. While they were small we could feed them through the day and that was sufficient; when they got about grown we let them go in the corn field. They did very well until the fodder was pulled and the corn began to get dry enough to shell, then they destroyed more corn than so many hogs. After we gathered corn they would make so much fuss around the house at night that we would have to feed them to get them pacified so that we could sleep. Then at 4 A. M. they would waken us again to feed them. It made no difference how cold it was those ducks were always on time to be fed twice during the night, at 9 P. M. and 4 A. M. I think we picked them twice the second year, and they yielded a nice lot of feathers, but as it looked so painful we desisted from such an inhuman thing. We were told that they were the finest poultry for table use that was raised, that they would beat a baked turkey clean out of sight. Well, we were going to have a birthday dinner, so we killed a fine duck very early in the morning, and we had three expert cooks that day, and they all took that duck turn about, and it was 10 A. M. before they had it dressed. I never saw the like of pin feathers. After running the duck business three years under the above difficulties, we gathered up every Pekin duck on our place and sent them to Wilmington and got 40 cents apiece for them. I am sure they had cost us at least three dollars apiece, not counting our trouble with them. We have learned this about Pekin ducks: 1st, They do not yield as many feathers as geese. 2nd, They will kill all the little chickens. 3rd, It is worth two ducks to dress one. 4th, Deliver me from all Pekin ducks. We have no experience with geese. We are going to buy some next spring to put in our cotton field and strawberry patch to eat the grass.

SUMMARY.

The experience of our friends seems rather against geese and ducks. We think it depends on the location almost entirely. On the shores of the Chesapeake a great many geese are raised with little trouble or expense where there are wide stretches of salt marsh where they can graze and find snails and fiddlers and sand crabs, and can have plenty of water to swim and dive in where there are water weeds that they like. Ducks, likewise, like the freedom of the marsh and water. Doubtless many are raised where there is no water but what is drawn from the well for them, but it involves a great deal more care and attention. About thirty years ago, when the Connecticut preacher who used to write for the agricultural papers over the name of "Tim Bunker," introduced the Pekin ducks we paid him $10 for a trio. They were fine specimens, and soon began to lay, and we sold the eggs for $10 a dozen and hatched a good many. We were living on the banks of a broad river and the ducks had free range. Soon some rogue or dog got the drake, and as all our pure bred drakes had been sold we afterwards raised a lot of half breeds and finally all of these disappeared. We were not out of pocket in the experiment, but as one of our friends says, we came to the conclusion that ducks were the most foolish thing in the shape of poultry. We were getting interested in ducks about that time, and finding a man on the street with a coop of fine, large young puddle ducks we bought them for 50 cents each to fatten for the table. We then learned something about ducks. We believe that every one of those ducks ate enough to fatten a pig, and we concluded that it did not pay to try to fatten ducks until they had completed their growth. For many years we have stuck to the conclusion to let someone else fatten all the ducks and geese we eat, for no matter what the price we feel sure that they have cost the one who fed them more than he gets for them. With a wide marsh range and broad water, geese are profitable, as they cost little under such conditions and their feathers add to the income. But away from the water we would let both geese and ducks alone.

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A Fine Kidney Remedy.
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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For All a Safe Investment—For the Poor Sure Independence

The Upper Peninsula Land Co., Limited, of Detroit, Mich., has acquired, on the most favorable terms, large tracts of timber and virgin farming lands in the Upper Peninsula of Michigan.

These great tracts of high-class timber and farm properties lie along the lines of the Soo, South Shore, Munising and M. & S. E. railroads, and will be disposed of to small investors and settlers.

Full information regarding the Upper Peninsula Land Co., Limited, can be obtained from the Cleveland-Cliffs Iron Co., which has been operating in the northern peninsula of Michigan for 52 years and which any banker or commercial agency will tell you is one of the largest iron companies and owners of iron properties and timber lands in the country.

Before looking up the lands, satisfy yourself regarding us. Ask your home bank to look us up. They can do it through the Marquette National Bank, Marquette, Mich.; Manistique Bank, Manistique, Mich.; First National Bank, St. Ignace, Mich.; The Newberry Bank, Newberry, Mich.; First National Bank, Sault St. Marie, Mich.; Munising State Bank, Munising, Mich.; First National Bank, Escanaba, Mich.; Peoples Savings Bank, Detroit, Mich.; State Savings Bank, Detroit; Colonial Trust Co., New York; Cleveland-Cliffs Iron Co., Cleveland, Ohio; Bank of Commerce, Cleveland; Mercantile National Bank, Cleveland.

Values Can Not Be Questioned.—There is no question about the value in what we have; it can be seen by you as it has been by others.

We employ the most reliable woodsmen to carefully estimate all the timber on every acre we have. On his report on the timber on each 40 acre tract we put our price, which varies according to the amount of timber on each 40, figured at the regular market price for standing timber.

Detailed Information Furnished.—We will send you a copy of our woodman's report, showing the amount of each kind of timber on any given 40 acres, with our timber valuation which you can verify.

A great deal of this land which is heavily timbered will be sold at just the value of the timber itself with no charge for the land; and in other cases where there is only a little timber but amply sufficient for farming purposes we will sell just for the value of the land with no charges for the timber. We will sell land in lots of 40 acres up.

You Get Mineral Rights Also.—Owing to the fact that the upper peninsula of Michigan is known to be rich in mineral resources, especially iron and copper, it is the custom to reserve all minerals from the sale of land

We, however, give you a clear deed without any mineral reservation so that you will get full benefit of anything that may be found.

The land itself is fine farming land and the taxes are very low. The soil will raise anything and is easily worth $5.00 per acre without the timber. The lands are increasing in value so rapidly that a purchase of this nature is attractive merely as an investment. It is of a variety of fertility which suits it to the raising of crops now most in demand, fruit, celery and sugar-beets. Fruit is grown as abundantly and as profitably here as in the well known fruit belt of the southern peninsula. We have large tracts of the same black loam which has produced the world famous celery at Newberry; sugarbeets grown here yield a larger percentage of sugar than in any other section of the middle west, from 16 to 19 per cent. being the average. These figures are furnished by the State Agricultural College at Lansing. The demand for these crops needs no comment from us and the opportunity not only for comfort and good living, but for independence, lies waiting for the man who will come and raise them. Stock is raised and bred here with great success, and stock experts, recently over the territory, say it offers extraordinary opportunities for this industry. The staple farm crops grow abundantly and luxuriant, for the country is blessed with plentiful rainfall. It is a wonderful hay country. Irrigation here between the lakes is never thought of and general crop failure is unknown. The mines, timber and wood-working industries furnish the best market in the world for your timber and products at your very door

We will make our terms of payment easy: ¼ down and balance in 1, 2 and 3 years at 6 per cent. Investigate this at once. When writing us state number of acres and the class of land you desire, and we will send you detailed reports and information for your investigation. Upper Peninsula Land Co., Ltd., 848 Washington Arcade, Detroit, Mich.

Ayer's Hair Vigor. Your gray hair shows you should use it. Keep young. J. C. Ayer Co., Lowell, Mass.

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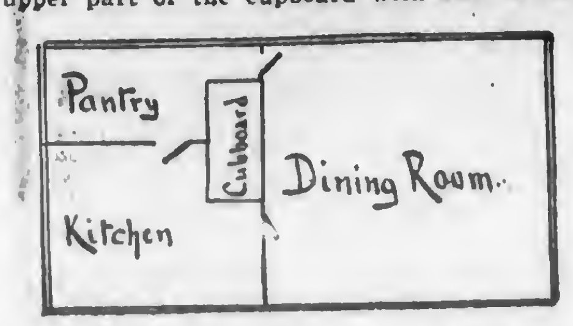
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

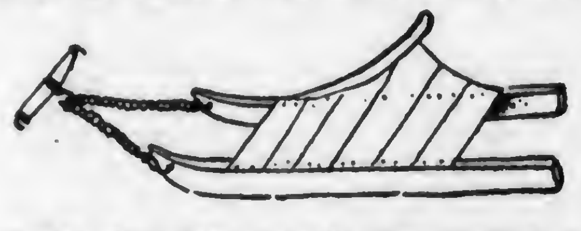
All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Room Arrangement. — Much time and many steps can be saved if in building a new house, the dining room, kitchen and pantry are arranged something like the plan shown in the illustration. Have the upper part of the cupboard with shelves for dishes, and doors both in pantry and dining room. The dishes can be washed in pantry, set on the shelves, and taken from other side as needed. Have the lower part in drawers to open both ways. MRS. J. D. FISKE.
Tuckerton, N. J.



Household Economies. — Save the switch off a cow's tail; cut out all bone, salt, and cut hole in to hang up by. When dry, wash. Clean with soap and some good washing powder. Use to clean combs on. It can be bound with velvet and finished with ribbon bow if liked. Will bear many washings and last for years. Sew four or five pieces of broom corn straw together with wrapping cord or broom wire. Wrap cord around several times and fasten tight, cut off even at each end. This is handy to clean corners in rooms, clean picture frames, etc.; tie to old broom handle for cobwebs, etc. MRS. J. O. MILLER.
R 6, Nashville, Tenn.

One-Man Corn Sled. — Make two runners, one 5 feet, and one 7 or 8 feet long; use 2x6 stuff; place 2 feet apart and nail boards on top as shown in cut. Fasten a scythe blade on for knife. It is better than the steel plate knives. Knife should run high on edge and at an angle of about 45 degrees from the runners. The object of the long runner is to keep the sled from bucking to one side, which is caused by the cutting being all done on one side. We stand up to cut in large corn, and put on a box and sit down in small. It is a waste of labor to knock the corn down on sled and pick it up again. Keep it up in your arms. The single sled is now preferred to the double ones here. I am a boy 14 years old. My father has taken The Practical Farmer since before I was born. ARCHIE ORANGE.
Galesburg, Kan.



[The illustration shows the device all right except that the one runner on side where scythe blade is fastened, should have been shown longer.—ED.]

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◆

Mending Tinware.—When we were first married my husband got me a soldering iron, a bar of solder and a bottle of acid, all for a quarter, in Cleveland, and it saved many a dollar, for when there is a hole in any tin of any kind, stick the iron in the stove, and while it is heating, clean the vessel to be mended, scrape around the hole to get to new tin, then melt a little solder off from the bar and solder smooth around and over the hole. If it is not new and the solder does not want to stick, then use a little acid and it will. Have the place to be soldered perfectly clean, and you will have no trouble. Try this way and you will never have to mend again by putting sealing wax or something similar on, and you will save many 10c. at the tinner's and make things last longer, too. MRS. MAGGIE RITCHIE.
R 2, Macedonia, O.

Coal Oil for Cleaning. — To clean a wash bowl or basin when soiled, take a tablespoonful of coal oil and pour in. Then rub well the sides and bottom with a rag or paper and all will be nicely cleaned. Rinse in clear, hot water.

To Start Fires Easily.—Have an empty can which will not leak; fill one-third with coal oil, and in it place two or three corn cobs to soak. When starting a fire, take out a soaked cob and lay it in the stove or grate. Then place on more dry kindling. Light the cob through the grate and your fire is started, and the floor not littered with shavings.

Remedy for Ivy Poison.—Mix lime and cream, equal parts, to a thick paste, spread it on a piece of muslin and wrap around the affected part. If on the face, apply frequently, keeping the cloth moist all the time and you will soon find relief.

Bathe a Bruise with vinegar as soon as the accident happens. If it can be kept in place, lay a cloth, soaked in vinegar, over the injury, wetting it as it dries, and there will be very little discoloration from bruise.

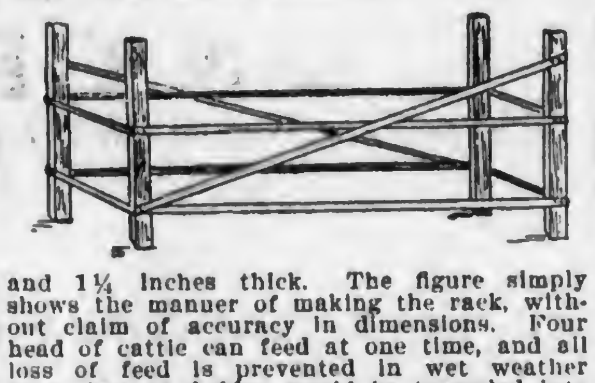
For Stomach Worms in a child mix one teaspoonful of powdered sage in two teaspoonfuls of molasses, and repeat the dose, giving every morning. MRS. A. H. PARKER.
R 1, Athens, O.

Household Short Cuts.—To clean out a milk strainer that has become clogged, put a spoonful of salt on your dishcloth when wet, and rub it through the strainer. Nearly all housekeepers know that melted paraffine run over the top of jelly is the best way to keep it, but not everyone knows that it is best to put it on while the jelly is still quite warm, for then it spreads more evenly and adheres to the glass. Sometimes it separates from the glass when put on the jelly after it becomes cold. It keeps out dust and air and can be washed off, re-melted and used a number of times. MRS. J. A. MCFARLAND.
R 4, Utica, O.

Short Cut for Silo.—Last year we decided to build a silo, and as it was needful that we economize, we built it ourselves out of 2x4 staves, and as we wished to build it round and have round iron hoops, we asked two blacksmiths what it would cost to cut threads. We thought it cost too much so we sent to Chicago for stock and die and saved $6 in the threads alone. Our silo cost about $50 and is a success. H. W. HALLMAN.
Creamery, Pa.

To Save Climbing.—When two or more men are picking apples or pears from the centre of large trees, very much climbing may be saved if each man has two picking sacks or baskets, and a ¾-inch rope long enough to reach from top of the tree to the ground. (Rope should have a hook of No. 9 wire tied to one end.) Each man can fill one sack, let it to the ground with the rope, and go on filling the second one. When second sacks are full one man goes to the ground and empties all sacks into the crates. Sometimes it is convenient to have a boy stay on the ground and empty sacks for all the pickers. J. B. JOHNSTON.
New Wilmington, Pa.

Simple Feeding Rack. — The accompanying illustration shows a rack which, as told in the Tribune Farmer, is much used in Pennsylvania for feeding cattle in the yard. The corner pieces are made by quartering a log about 10 inches in diameter and 5 feet long. The boards should be 5 inches wide and 1¼ inches thick. The figure simply shows the manner of making the rack, without claim of accuracy in dimensions. Four head of cattle can feed at one time, and all loss of feed is prevented in wet weather when hay or fodder would be trampled into the mud. Brace rack as shown. READER.



WORMS
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☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

For Sale. 1,320 acres timbered land in virgin state, white and red oak, chestnut and hickory. $5 per acre. Address Box 29, Charlotte, Tenn.

For Rent. A first-class truck farm of 57 acres; just outside of city limits of Bridgeton, N. J. Address W. P. SPRINGER, R. F. D. 4, Bridgeton, N. J.

Farm 98 acres, five miles from station, 500 pear and apple trees. Fair buildings. Old age my reason for selling. J. D. SPRING, Perrineville, Monmouth. Co., N. J.

Wanted. A good married man to work on dairy and do general farm work. Will pay good wages to a good man. Address BURTON BEARD, Calla, Ohio.

Farm. 160 acres. 15 miles from Indianapolis. Good corn farm; 45 acres in orchards. Reason for selling, want to go South. S. BILLINGSLY, Greenwood, Indiana.

Will Exchange hot water incubator, capacity 700 eggs, gives best results, for Barred Plymouth Rock hens. Address WILLOW GLEN FARM, Host P. O., Berks Co., Pa.

For Sale or Exchange. Thoroughbreds. Poland-China pigs, both male and female, also Buff Leghorn pullets, Arnall strain. MARTIN STINSON, Eden Center, N. Y.

Wanted. Tenants for farm. Man to work on farm with industrious wife to do housework; no washing or ironing. Reference required. H. M. FROMAN, Box 16, Ghent, Ky.

Thoroughbred White Plymouth Rocks; cockerels; Fishel strain. For sale or exchange for thoroughbred pullets and turkeys. Write at once. MRS. GARRETT WELCH, Kemper, Ill.

Will Have some bull calves out of Forfarshires Rex (imported) that we will exchange for heifers of equal breeding. Will furnish milk records and pedigrees of dam. WILLOW GLEN FARM, Host P. O., Berks Co., Pa.

Wanted. A young man 17 to 20 to work on farm and drive vegetable wagon. Must be able to draw trade. Neat and tractable, free from bad language and tobacco. Business reference required. Good wages to right party. S. E. DAVIS, Wakefield, Rhode Island.

For Sale. Milk farm; 110 acres; ¾ mile of Viroqua, county seat. Milk route that takes milk and cream from 25 cows; milk 6 cents quart; cream 24 cents quart. Good buildings; 6 acres tobacco; 25 cows; other stock and tools. A money maker; if interested write GEO. FISHER, Viroqua, Wis.

For Sale. My Jersey City home; 8 rooms, all improvements; lot 42x100; $4250. 30 minutes from New York. $1500 cash, balance easy terms. Would exchange equity in part payment for good cheap farm in Delaware or eastern shore of Maryland. G. I. HOMEL, 44 Gantier Ave., Jersey City, N. J.

For Sale or Exchange. Two Holstein Bulls. First bull, Paul Wayne De Kol, four years old, bought from the famous Yeomans' herd. Second bull, Paul Wayne De Kol, 2nd; two years old. Both are well bred, well marked, gentle and get good stock. Also Collie Pups, $3 to $5. Best of breeding. W. M. HALLOCK, Spencer, Tioga Co., New York.

Farm For Sale or would exchange for Virginia or Maryland property. 51½ acres, half mile from Boiceville station, post office and school; along Ulster & Delaware Railroad, in Catskill Mountains. Good water, nice two-story 12 room dwelling house. Fine place for summer boarders. All out-door buildings. For particulars Ad. THOMAS FINNY, Boiceville, N.Y.

For Sale. 10 acres close to city of Los Angeles. Fine garden land; 4½ acres planted to walnuts; 1 acre to navel oranges; 1 acre to deciduous trees; 1 acre alfalfa; also peas, onions for winter market. 5-room colonial cottage, all modern improvements. Large barn, wind mill and tank; also interest in pumping plant on place, furnishing plenty of irrigating water. Poor health cause of selling. ALFRED LEMORE, R. R. 2, Los Angeles, Cal.

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equally instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Box 32, Oneida, Kan.

Mistake in Plowing.—A mistake which many farmers make is in plowing too close to fences. This is a loss in several ways. In the first place, the ground is tramped to death and seldom yields a good crop. Second, the plowing at the ends is always difficult and the harness is frequently torn on the fence. Third, there is difficulty in harvesting and the binder must be run through the standing grain, thus wasting quite a good deal. We find it is far better to leave a strip a rod wide all around the fields. This strip we seed to grass and can then mow it and get a fair crop of hay from it each year. In this way we avoid all trouble in working the land, can get at the weeds that come in from about the fences, and last, but not least, the fields look neater. We also find that if we put the time that we formerly spent worrying with ends, on the field proper, we can get as much grain from it and have the hay besides. JACOB M. KRUSE.
Bozeman, Mont.

Improving the Farm.—If you have a notion to sell your farm, improve it and fix it up first. Repair the fences and get rid of the briars which come up everywhere if given a chance. Rid up the barnyard and everything else that tends to disgrace a farm. After you have thus fixed up perhaps you will decide to remain on it. If not, you will soon find a purchaser that will pay you at least a reasonable price. To keep the yellow striped beetle off of cucumbers we have mixed turpentine with land plaster, about a teaspoonful of turpentine to a quart of plaster. Sprinkle the plants with this; it does not kill, but they do not like the odor.
Carrolltown, Pa. E. L. SHARBAUGH.

Importance of Barn Room.—One of our greatest mistakes was in not having a barn in which to store our feed and shelter our stock. True, we had a small stable, but nothing we could rightfully call a barn. When we had hay we must stack it out in the weather, from which we suffered considerable loss. We thought that we were not able to build, but would wait until we had the money we finally built a barn, and since we have it we find it does not take as much feed to keep stock and we save each year nearly enough to build the barn. I believe it always pays to have sufficient barn room, since enough can be saved in a few years to repay the first cost. C. C. BEALS.
New London, Ind.

The Farm Fences.—Many farmers seem to be possessed with the idea that fences on a farm are a nuisance. After an experience of more than forty years on the farm I find that it is a great mistake not to have fences on the farm, although I do not believe in fence corners. I mean clear, straight fences so that we are able to work right up close to them and stock can graze under the fence. I am positive that it is more profitable to have fences than to have none. How often do we hear of farmers losing several cows by their getting into some dangerous crop, as apples, turnips, etc. And how often do farmers lose from 25 to 50 per cent. of the value of milk and butter through insufficient pasture on account of poor fences. I guarantee that it will pay any reader to have suitable fences on his farm.
Wehr, Pa. F. F. FRANTZ.

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Does your subscription to The Practical Farmer expire with the Dec. 26th number? If so, you must send your renewal subscription now in order to get the Jan. 2nd number. All subscriptions expiring Dec. 26th and not renewed will be cut off at that date.

We will send The Practical Farmer for one year, the Farm Journal for 5 years, and The Practical Farmer Almanac for 1904, all for only $1.50. The bright little Farm Journal is the leader of the monthly agricultural Press.

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Our Sweet Corn.—Our family is very fond of sweet corn, often making an entire meal with little else. We therefore consider it a great mistake if a liberal supply is not planted in succession, beginning with the very earliest varieties, such as Cory and Golden Bantam (the latter we like very much) and ending with the large Evergreen. We have the best success and the finest ears where the suckers are kept off, allowing main stalk all the nutriment. Some years the bolt worm is very troublesome, but dusting with pyrethrum powder just as the silk begins to show, tends to discourage the moth, and most of the ears are in perfect condition without being poisonous for the table. WILLIAM C. AIKEN.
Los Angeles, Cal.

Killing Pea Weevils.—I have frequently killed the weevils in a package of seed peas by immersing them in cold water for 24 hours or longer before planting, thus destroying the pest. In the spring of 1902 I thus soaked two bushels of American Wonder peas. One Saturday morning the ground was ready and the peas soaked, but a case of sickness compelled me to go away for the day. Before going I took the sacks from the water for the peas to drain, and promptly Monday morning I sowed them. But the weather had been so warm that sprouts had started, and in the three days that they had been let the sprouts became so large that the harrow broke nearly all of them off and I lost my crop. Besides the two 24-hour periods in the water had not been enough to drown all of the weevils, many of which escaped by means of bubbles of air which remained attached to the peas. Hereafter I shall fight weevils with carbon bisulphide, which kills every weevil that has been hatched at the time it is used, and never injures the peas.
Greenleaf, Ore. WM. H. WHEELER.

Growing Peanuts. — Last year I procured some peanut seed and planted it in some corn land, as all the other land was taken up. I planted them in the drill between the corn, which was well manured. They came up all right but soon turned yellow and ceased to grow. We cut the corn, but they did not grow much more. The shade furnished by the corn evidently dwarfed them. Some came on and made very good tops, but not many peanuts. I did not make more than a bushel when I should have made ten bushels or more. ROBERT M. HITT.
Montmorenci, S. C.

Canning Hints.—In canning fruits and vegetables it is very important to have all cans perfect. See that the covers are not bent, as any little opening will give access to the air. Covers that are difficult to get off when the can is to be emptied are often bent by running a knife around under them in order to loosen them. Do not render futile your skill in canning by the use of old rubber rings. Get new ones. Be sure that the cans are perfectly sweet; if you are not right certain about this, wash and scald with water to which a little soda has been added. To prevent cans from breaking when filling, place on a folded cloth wet with either hot or cold water and do not let a draught of air strike them, as that is sure to break them. See that they are air-tight by placing bottom up for a few moments.
Uniondale, Pa. ETHYL M. SMYTH.

Keeping Beefsteak.—I would like to tell the sisters about our success in keeping beefsteak; sometimes one wishes to keep a small supply on hand to have it ready in time of need; perhaps for a special occasion or a change of diet. If it is possible to keep it very cool, almost to the freezing point, as in the winter, or in a refrigerator in summer. I put the spider on the stove with a very little grease in it and when this gets to smoking, I put a piece of steak in it, searing it on one side and immediately turning it over and searing the other side. I then put the beef in a small lard pail and let spider come to smoking heat again. I proceed in this manner until I have the pail packed full. Put up in this way it kept nicely for days, and when I finally cooked it for the table, it seemed tenderer and nicer than the first we had. M. WEYMOUTH.
Morris, Me.

Do You?—Do you let your corn stalks stand in the field and your stock go hungry in winter? Do you let horses, sheep and hogs all run in the same lot, resulting in the hogs being injured by the horses? Do you let a dozen knotty pigs suckle one poor sow, thus ruining all of them, when half the number may be well cared for? Do you let the calves have the last and richest portion of the milk when you know the first is as good for them? Do you let your hens roost in a tree or on the roof of the barn and then wonder why you do not get bushels of eggs? Do you let the hedge fence cover four times as much ground as there is any need for? Do you haul heavy loads through the fields when the ground is wet, cutting ditches and causing clods? Do you keep the purse and dole out a few cents to the faithful wife when she pleads for it? If you do these things, don't you think you are making a mistake that will end in failure? W. F. ADAMS.
Yoakum, Tex.

Washing Tumblers.—When I first began keeping house I was unaccustomed to the work and practiced every advice given that would speed my work and lessen my labors. Among other advice erroneously given was that to rinse the tumblers or goblets in which water only was served at the meal, was just as cleanly as to wash them with the dishcloth, and saved work. They were rolled in a pan of warm water and dried on a clean towel that would not lint. But I found that although my glasses were sparkling bright there was an odor about them that was not pleasant. I wish to advise all young wives to never do any other way than to wash their glasses well, the same as other dishes, then they will be sweet and pure and healthful. The saliva that adheres to the rim of the glass from the mouth is glutinous and dries on the glass. It cannot be rinsed off with warm or cold water without washing with a cloth. All dishes should be washed thoroughly and rinsed and dried well; very often health depends upon it.
Elliott, Ia. MRS. C. M. CLARK.

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A substitute for the present expensive linen collar was long destined to appear. It had to come because of the costly process of laundering a 15 and 25-cent collar, the washing during its life always costing several times the original cost of the collar. The collar which has done this is the "Linene," full particulars of which will be found in the announcement of the Reversible Collar Co. on another page. It is a cloth product of the wear-and-throw-away kind. The only sensible collar. You may have a little boook of valuable information by writing for it, mentioning The Practical Farmer.

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Situated in Barbour Co., Southeastern Alabama, on a branch of Central R. R. of Ga. Gathering the crop is about finished; some not yet through making syrup. Most all rented farms, changing hands and the renters are beginning to move. The crop this year has been very short, especially cotton. One killing frost on night of Nov. 18th, one in October that killed nearly all crops. Some meat killed during cold days that prevailed; more yet to kill. Meat, $8 per cwt.; corn, 60 to 75c. per bu.; syrup, 40 to 50c. per gal.; butter, 20c. per lb.; eggs, 20c. per doz.; land, from $3 to $10 per acre.
BUFORD MORTON.
Louisville, Ala., Dec. 7, 1903.

Located in the central part of Cerro Gordo Co., Iowa. Land very rich, but too flat for good drainage. The past season has been a very unfavorable one. Oats were put in three weeks to a month late on account of wet weather. When harvested yielded only about one-quarter crop. Corn was planted very late, and the excessive rainfall caused it to grow very slowly. Much corn land was so wet that nothing was raised but a crop of weeds. Frost was about three weeks later than usual, thus giving most of the corn a chance to get ripe. The average yield is from 10 to 20 bushels per acre. Many farmers are selling out and moving away. Prices as follows: Potatoes, $1; corn, 45c.; oats, 34c. per bu.; chickens, 7c.; turkeys, 25c.; dressed ducks, 10c. per lb. C. V. GREGORY.
Burchinal, Ia., Dec. 5, 1903.

Located in the northeastern part of Massachusetts, in Essex county. We have had a hard summer this year. Hay and potatoes yielded well, but other crops were poor. The weather is cold and our crops are all harvested. Eggs are high and turkeys are scarce. Painters are busy at present. Prices are high. Potatoes, 80c. per bu.; butter, 28c.; turkeys, 30c. per lb.; eggs, 40c. per doz.
J. A. WILSON.
Amesbury, Mass., Dec. 7, 1903.

We had the first biting frost Nov. 27th, which was unusually early, as it often does not fall until Christmas. We had gathered a fine crop of eggplants and many acres had yielded over $100 worth, but the green beans we had just commenced to ship; the okra we had secured several good crops from; Irish potatoes were about as large as hens' eggs and will be a fine crop, now worth $1.50 per bu., f. o. b.; cucumbers were killed, but lettuce and green peas are not hurt and we are still busy planting cabbage. Our Sumatra tobacco planting will be doubled next year. Oranges, grape fruit, etc., not hurt. Many new settlers and visitors coming. W. E. EMBRY.
Dade City, Fla., Dec. 5, 1903.

From East Central New York. The fall has been fine; but little rain, so the roads are dry and smooth and farmers have gotten their work well along. Corn, although a light crop, was secured in good condition. Potatoes were a small acreage and a fair crop. A large hay and oats crop will enable the dairymen to carry their increasing herds through the winter. Cheese and butter have paid well and dairying is booming. A very favorable country for apples; but little attention given to their development. Mining roofing slate an important business and greatly helps the local markets. Potatoes sell for 50c.; corn, 70c.; oats, 50c.; rye, 60c.; beans, $2.50 per bu.; apples, $2 per bbl.; beef, $5; pork, $7; lambs, $5 per cwt. alive; live turkeys, 20c.; chickens, 10c. per lb.; slate, from $3.25 to $15 per square. Farm help very scarce and farm property low priced.
MYRON C. SAFFORD.
Salem, N. Y., Dec. 7, 1903.

Located in Lamoille Co., 5 miles from Hyde Park, the county seat. Season very dry. A short hay crop, but oats very good; very little ripe corn on account of cold, dry season. Fall work well advanced before winter set in. Potatoes rotted very badly; no apples except back in the hills. Prices: Hay, $15 to $16 per ton; potatoes, 50c.; apples, $1 per bu.; butter, box, 23c.; print, 25c. per lb.; eggs, 30c. per doz.; turkeys, 20c.; chickens, 14c. per lb.; milk, 5c. per qt. Wages high and help scarce. MRS. S. J. DAVIS.
Johnson, Vt., Dec. 8, 1903.

Weather cool, seasonably dry; altogether very fine. First hard freeze Nov. 16th; first snow, 8 inches deep, Nov. 30th. Corn crop unusually short and of poor quality; much soft corn as a result of the late, wet spring; corn husking late. Some wheat sown; some pieces good, others poor. Fruit scarce. A fair crop of hickorynuts. Lots of bees, and they did unusually well this year. Poultry plentiful; better grades increasing as a result of more attention given to that department. Hogs, $4 per cwt.; corn, new, 35 to 40c.; potatoes, 85c.; hickorynuts, 60 to 75c.; wheat, 70c. per bu.; chickens, 6 to 9c.; butter, 20c.; honey, 9 to 12½c. per lb.; eggs, 25c. per doz. The snow did not stay on very long, as it is all gone, just as snow usually does. Farmers are still much behind with their farm work. Best wishes to The Practical Farmer and readers. JAS. H. TULL.
R 1, Walker, Mo., Dec. 5, 1903.

Located in Pulaski Co., 12 miles northeast of the county seat, Somerset. A nice little snow, which fell about a week ago, is still on the ground. The men are having a nice time hunting. Quails are selling at 15c. apiece; rabbits, 8c.; squirrels, 8c. Corn about half gathered, but a better crop this year than we have had for some years. A good many sales of land in this country, but no empty houses for rent. Markets good for all kinds of produce. Eggs, 26c. per doz.; butter, 20 to 25c per lb.; many beef cattle; beef selling from 5 to 10c. per lb. Stock of all kinds looking well. Few hogs are dying with cholera. We have telephones. Most all timber is being cut and sold, prices high. Land in this part is very good. All kinds of grain grow well. Ginseng is now being cultivated to a great extent. Most all the wild roots in the woodlands have been bought and planted in gardens, and have brought many hundreds of dollars' worth of seed. Horses are selling from $75 to $150; cows, $20 to $30; sheep, $2 per head. Onions are raised plentifully here; large selling at 60 to 75c; sets, $1.50 per bu.; honey, 15c. per lb. Best wishes to readers of The Practical Farmer.
JAMES A. HUBBLE.
Pulaski, Ky., Dec. 7, 1903.

In Western Pennsylvania, on the Ohio boundary, just north of the terminal moraine of the great glacier of the ice age. The rivers run from north to south; the river bottoms being alluvial, the hillsides bordering the river valley being gravelly, and the high lands between the rivers heavy clay. The low lands bring good field crops, but are too frosty for fruits, which do well on the high lands with "frost drainage." Crops this year average 80 per cent. of a perfect yield. Corn, 100; wheat, 100; oats, 100; hay, 70; garden crops, 85; fruit, 70; potatoes, 70. Prices are excellent: Apples, 75c.; potatoes, 80c.; wheat, 80c.; oats, 40c.; corn, 35c. per bu.; hay, $14 per ton; butter, 30c. per lb.; eggs, 33c. per doz.; chickens, 60c. apiece; meats are low; dressed hogs, 6½c. per lb. The county is well stocked with hogs. The most remarkable cold wave ever known here in November came on the 18th; the ground froze hard without ever getting muddy, and has kept frozen for 15 days, making splendid roads. J. C. M. JOHNSTON.
New Wilmington, Pa., Dec. 8, 1903.

Located in Johnson Co., Southern Illinois, one-half mile from village of Ridenhower. Weather dry and cool. Water very scarce. Corn nearly all gathered. A good crop reported. Wheat in late, owing to dry weather, but looking very well. Prices: Corn, 40c.; wheat, 80c. per bu.; timothy hay, $8; clover, $7 per ton; hogs, 4c.; cattle, 2 to 4c.; chickens, 7c.; turkeys, 12c. per lb.; eggs, 25c. per doz.; butter, 15c. per lb.; sweet potatoes, 50c.; Irish potatoes, 50c. per bu. Our Farmers' Institute held a very successful session at Vienna, the county seat, Nov. 12, 13 and 14, with an attendance of about 800 farmers.
E. E. HUNT.
Ridenhower, Ill., Dec. 7, 1903.

Located in the northern part of the State. We are having quite a young winter; it caught some people with their celery in the garden, but as luck would have it we just got ours in in time. It is quite good sleighing around here for farm work with mud sleds. It was 8 degrees above zero, but as there was comparatively no wind it did not seem so cold; it warms up some in the middle of the day, but is plenty cold enough to handle potatoes. Potatoes are looking up a little, some think; they are 60 to 65c. per bu.; butter, 25c. per lb.; eggs, 35c. per doz., and very scarce; hens are slow about beginning to lay; apples, 50c. per bu.; there were plenty around here; some could hardly give them away; wheat, 87c.; corn, 49c.; oats, 37 to 38c. per bu.; hay, $12 to $13 per ton. Farmers, as a general thing, have their farm work in shape so the cold will not damage anything much. There is quite a good bit of corn yet to husk, as farmers were busy handling the potato crop; we had a fair yield, 315 bushels from 3 acres of land; there were some fields better and some not nearly as good. MRS. MAGGIE RITCHIE.
R 2, Macedonia, O.

Located in Tennessee. Land somewhat hilly, but very productive. Principal industries are farming and stock raising. Weather for gathering crops has been fine; scarcely any rain. Crops very good considering drought. We have been having winter weather for two weeks; 3 inches of snow, with freezing weather. Wheat and oats looking well. Good demand for all kinds of stock. Poultry raising receiving more attention. Chickens, 10c.; turkeys, 13c.; hogs, 5 to 6c.; butter, 18c. per lb.; eggs, 25c. per doz.; turnips, 35c.; apples, 60 to 70c.; wheat, 90c.; corn, 50c. per bu.; beef cattle low; horses and mules high. Stock in good condition; plenty of feed. Health good, with plenty of cool flowing streams of water. Good schools and churches. Better methods are practiced and more farm papers are read. Hired help scarce. Long life to The Practical Farmer.
S. R. HAWK.
Indian Springs, Tenn., Dec. 7, 1903.

Located on line of G. N. R. R., about halfway between Spokane and Seattle, in the famous Wenatchee Valley. Crops principally fruit and alfalfa hay. Prices: Apples, $1 to $1.50; peaches, from 40 to 60c.; grapes, 40 to 80c. per box; alfalfa, $11 to $12; timothy, $15 to $16 per ton; potatoes, $1; onions, $2 per cwt., f. o. b. here. Unimproved land, $50 to $125; improved, $100 to $1,000, depending on age of fruit trees and other improvements; horses, $75 to $150; milch cows, $50 to $75 each; farm help, $25 to $30 per month.
A. A. WRIGHT.
Mission, Wash., Dec. 3, 1903.

News of the World.
You can get them for $1.25, which pays for The Practical Farmer and the Thrice-a-Week World, both one year and The Practical Farmer Almanac for 1904. The Practical Farmer you know all about. The Thrice-a-Week World gives the news at home and abroad three times a week. The Practical Farmer Almanac is useful every day in the year.
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Run a Northern Dairy Farm Without Cows.

Horatio Carter, Newtonville, Mass., writes about a farm located in Central New Hampshire, in substance, as follows: "A young man who is not over strong bought the place some three or four years ago. There are 225 acres of land. It is a good farm. A dairy has been kept on it and I should judge it would easily carry 50 head of stock, and the necessary horses to run it, when properly brought up. But this means never ending work, 365 days in a year, in doors and out. My friend's wife is not very strong. You managed to run a small place successfully without being tied up with a dairy, Mr. Terry; tell us how this young man can do the same with a large farm. There are 50 acres of fine, strong land, as level as a barn floor. It is not as productive as it once was, but it is capable of great things. What I particularly want to know is how this place can be made to pay without keeping a dairy. With potatoes the main money crop what rotation would you advise?" I am not told what the farm is outside of the 50 acres of fine, level land. One naturally concludes it is mainly pasture land and not suitable for cultivation. The dairy that has been kept has roamed over this land during the summer season, probably, and been fed winters from the products of the 50 acres. Some more land, however, may be under cultivation, but it is not so level and good. Well, considering the northern location, and the fact that our friend mentions potato growing, I should think this crop would be the best to help a man to a good income without keeping a dairy. I think I should try the following 4-year rotation on the land suitable for plowing and cropping: Clover, potatoes, northern peas and oats, clover sown alone. Sow clover seed on one-quarter of the land as soon as it is dry enough in the spring to be made fine and nice without injury from the tramping of the horses. If there is any danger of clover not making a full stand, sow some timothy seed also, but no grain. I would prepare the seed bed with the greatest care, making it very fine. Mow over the field when weeds get some 8 or 10 inches high, leaving what is cut off as a mulch on the surface. See that it is not thick enough at any point to smother the crop. Repeat the mowing if necessary. This to discourage all weeds and prevent their going to seed, and to help the clover or grass. Take off no hay that season and turn no stock on the land. The next year mow for hay, and you should get a big yield. If manure is kept in one of the New England manure cellars, under the stables, where no loss will occur, spread it evenly on the clover sod after the hay crop is removed. Some may be used to advantage, perhaps, the year the seeding is done, on the poorest spots, where clover and grass would not thrive well otherwise. This manure may be put on as a top dressing, after the first clipping, when one can see just where it is needed. Spread it very finely and evenly. The main object of seeding alone is to help ensure a good stand and growth of clover. This will furnish cheap fertility for the following potato crop. One can well afford to lose the use of the land one season to get a great crop of hay the next year and a heavy, rich sod to turn under for potatoes the next season. After potatoes, sow peas and oats, the following spring, and the yield should be heavy. At least there is a good chance for this; if there are thin places in the soil it may be well when cutting this crop to skip over these, leaving all the growth to die down and be plowed under. The same thing may be done to advantage with the clover crop, if it is not all needed for hay. The great want of the poor land is vegetable matter, and a man growing potatoes can well afford to furnish this directly, sometimes, without first putting it through animals. Potatoes may be made eventually to bring some $80 to $100 per acre, perhaps. One can well afford to feed such a crop properly. Notice that this article is in answer to a special question, how to make the farm pay without keeping a dairy. There is no doubt but what it can be done. But the management should be somewhat different from what would be best on a dairy farm, of course.

Some potash may be purchased to advantage for the potatoes and clover. This cannot be known certainly, however, except by careful experiments on the land. Clover, if it thrives well, will bring up some potash from the subsoil, and extra tillage will make still more available. Be sure to save all the liquid manure from horses and other stock kept, as this contains nearly all of the potash voided by the animals. And do not rake up and haul away the potato vines, or burn them. Leave them evenly spread on the land, as they grew, to be as evenly turned under. The potash the crop takes out of the soil is largely in the vines. In the above rotation it is a question whether much, if any purchased phosphoric acid will be needed. Clover does not require much, nor do potatoes. The natural supply, when all manure from the clover and peas and oats is returned, may be sufficient. Now what shall be done with the pasture land, and the hay, aside from what the horses need? One might stock lightly with sheep, or cattle. They will take care of themselves in the summer and give the owner something to do in the winter. The work will not be as confining on a farm run in this way as where a dairy is kept and the owner milks and his wife boards the help. There need be no chores, much, in the summer, except caring for the horses. One can work 10 hours and quit. Rainy days, and some others, he may be entirely free. He works hard most of the time for four or five months and then can take it quite easy the rest of the year. But, now, I have been answering friend Carter's questions, as asked. Allow me to go a little further. Because a man is not very strong, and he does not want to have his wife overwork, is no reason at all for not keeping a dairy on a 225-acre farm. There is no need of its bringing extra work indoors, or compelling the owner to overdo, as a rule. A stronger man and his family can live in a separate house and do the routine work. With reliable help the owner need not do heavy or daily work. He can study out the best methods and oversee, doing some of the light jobs himself, keeping within his strength. This is done in thousands of cases and money made without the owner being particularly tied up. It can be arranged to have the man who lives on the place board other needed help. The owner and his wife can thus live about like town people, as far as the farm bringing work into the house is concerned. Sometimes it may be best to let the man who works for you have the old house, with its conveniences for milk, butter making, etc., and build a new home for yourself and family. Young people just starting cannot do these things, usually. It is often almost necessary for them to overwork and board the help; but it is well to be looking forward to something better as soon as one may be able to have it. A man with a small amount of capital can probably arrange to make the work lighter and less confining, out of doors and in, by following something like the plan given above, without a dairy. If he has abundant means, and the ability to manage in that line, he may have as easy a life while getting his income from a fine dairy herd. By "easy" I do not mean by any means that one should not have to work, and work hard; but he need not have to go beyond his strength, and his wife need not. And with good management they ought not to be confined by their business any more than all must be who are really successful.

Health Hints.—You Need not Have Colds.—The time has arrived when many people will be troubled with colds. Some will not be, to any extent. There is a good reason why they will not be, as well as why others will suffer. These things do not come by chance. All trouble in this line can be avoided, practically. It is merely a question of whether you will listen to and be governed by common sense, or whether you will go on in the old careless, thoughtless way. The truth is simple and easy to understand. Error blinds and mystifies the simple fact and truth, that colds do not come without easily preventable causes, fundamental causes. Remove these causes and they will not trouble you. What are some of the main causes? Probably breathing impure air comes first. You need the amount o there is in pure, out of door air your blood in the lungs prop e. breathed over and over again ood room does not answer the hus Then almost everyone eats cir- than is needed to support the usual poorly digested food gets i purify culation, putting more than some work onto the organs that shou the the blood. Or one eats unwh food, or does not take time to che food enough to mix it thoroughly wi the saliva. This will be far less likely to make trouble when one is out of doors most of the time. Shut up in impure air, thus lessening the ability of the lungs to throw off impurities, your cold may soon come. And lack of the usual and sufficient exercise, which helps to use up food, will hurry the cold along. If you do not eat such food, and take such exercise, as to cause the bowels to move freely and regularly, it will assist about bringing on a cold. If you do not keep the skin clean and active and healthy by proper bathing and rubbing, your chances for having colds are increased. A cool bath every morning, followed by brisk rubbing, is very helpful along this line. You cannot keep the skin perfectly healthy and active if you dress too warmly, or have clothes fit too snugly, thus checking full, deep breathing. In general, loss of sleep, irregular habits of any kind, or sudden and great changes in your habits, or anything else that lowers your vitality, may help about bringing on a cold. It should be known to all that simple exposure to cold, going out without your overcoat, say, the wind blowing on you, etc., will never bring on a so-called cold, unless there has been something wrong in your way of living before that. To use my old illustration again, a lighted match will cause the gas which is formed from gasoline under certain conditions to explode. You may light matches until the end of time and there will be no explosion if there is no gasoline around. Thus the exposure to cold is simply the lighted match, harmless of itself, if the conditions in the body are what they should be. Advocates of the germ theory should remember what is a well-known fact, that no germ in existence can harm a person who is in good health. When a cold goes through the family, or the neighborhood, the conditions that bring on one case are present with others. These may be impure air in the home, butchering time, when too much meat has been eaten, comparative idleness, etc. If there are such things as germs that can bring on a cold, they find in the whole family, sometimes, proper feeding ground. But mark you, if there is one member of the family who gives reasonable attention to these hints, he or she will be practically exempt from these colds that go through the family. A cold is simply nature's effort to throw off impurities that have accumulated in the system because you have breathed impure air, ate too much, etc. The regular organs became overtaxed and were no longer able to do this. You have often been exposed to severe cold, wind, etc., and no harm resulted. This was because your system was all right. You had been living fairly in accordance with nature's laws.

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She allows quite a little latitude, but abuse her too much and she rebels, and 'ou can blow your nose, have your eyes an and cough until the excess has been removed. A cold is always a curative process. It is better to avoid the causes and not have one. But if you do not and one comes on, you will surely get over it quicker by breathing only air as pure as it is out of doors, by not eating a mouthful for some twenty-four hours, or until you are real hungry, by bathing and thoroughly rubbing the skin, by taking an injection, if needed, to cause the bowels to move freely and by drinking all the pure water you have the least desire for. Be moderate, of course, in all changes in air, bathing, etc., even when they are for the better. It is terribly unwise to coax a person who has a cold to eat. You are simply adding to the trouble. It will take nature longer to set things right. She plainly indicates what you should do by taking away the appetite, generally. Feed a cold and you will bring on more fever and may cause serious trouble. der such circumstances it is awfully ng to coax the appetite of the ailing with some tempting dish. Thous- have gone to their graves as a re- Trouble need never come from a if it is properly treated. When a becomes real hungry for plain ll right. Nature shows that she for it then. But because you nt, by no means stop drinking Pure water, so far as you have esire for it, helps to carry out im- ities through the kidneys. Food is a hindrance to recovery, water a help.

T. B. Terry.

Growing Corn.

SAMUEL T. EARLE.

In The Practical Farmer in a recent issue, I cannot agree with Mr. Terry in the deep culture of corn at any time after it is planted. It is entirely a surface-rooted plant and at no stage of its growth can it be cultivated over two inches deep without cutting its roots. By the time corn has made a growth of two feet its fibrous roots will run from row to row if planted four feet apart. No plant delights more in a deep plowed and thoroughly pulverized soil than corn. I will here give my system of growing a crop of corn from the breaking of ground until the crop is ready to cut off. I rarely use a 3-horse plow, frequently a 12-inch cut instead of 15 or 18-inch cut. My large 2-horse plow is set by wheel to go down from 8 to 9 inches deep, according to depth of soil. I aim to bring up a little streak of yellow clay or subsoil. Your 3-horse plow, as a general thing, lays the furrow too flat for me. I follow the plowing, as soon as the ground is broken, with a large hinge drag, going the first time as plowed; this first culture is a very important one, as the drag does better on the fresh turned soil than after a rain. A second dragging, as much crosswise as possible. If a heavy rain should come to compact the soil, I give it a thorough disking; if no heavy rain I put on the weeder and keep that running all the time, if possible, until ready for planting. The weeder cuts 7½ feet, so very light I use but one horse, and can be driven by an active boy of 12 years. We reverse the weeder every time. The ground gets about four workings before planting, and if each working is well done, the land will be in nice condition for planting, which is done by the corn planter. As soon as planter can be kept out of the way I start the weeder and keep it going all the time until corn is made, reversing the culture every time, not regarding the pulling or breaking off of the corn until large enough to snap or break badly. I then close the weeder up to 30 inches and run but once in a row. I will say here my corn last season had three workings before it was up; it received in all, from time of planting, fifteen stirrings. Many will say, it is too expensive and you can't keep the grass from growing. The latter is a mistake, as the constant stirring of the ground keeps the grass entirely under, even in the hills of corn. With regard to the expense of culture, I claim my fifteen cultivations were not as costly as six cultivations with cultivator, as usually given. My five cultivations with the weeder, cutting 7½ feet, is equivalent to two and a half rows at a time, doing more work in a day than four cultivators can, running twice in a row, having four men and four horses. My after cultivation, running once in a row, equals the work of two cultivators. Now as to the theory of deep culture and cutting the roots of corn. All must admit the cutting of the roots is an injury to the corn at all times. In the second place, by cutting the roots as soon as the corn begins to shoot and tassel, if there comes a heavy rain down goes the corn, stopping all further cultivation at the time, as I believe, it most of all needed it, as I firmly believe corn should be cultivated until the grain is made. In a very heavy rain and high wind, in my mode, corn may go down, but this rarely happens. My crop received, last season, four or five cultivations after other farmers stopped. I have pursued this system for the last two years. Numbers of farmers advise me to give at least one deep cultivation, saying my corn would burn up if a drought came, but I found it exactly the reverse. My corn blades were mostly perfectly green when cutting, with caps brown, with my mode of culture. I find none making better crops than I have. I am a very old farmer, commencing when seventeen. I never learned chemistry, rarely taught in those days, but have been a constant reader of agricultural works from my boyhood. I will say that intensive culture has worked wonders in my land, and as far as I am able to judge, from the frequent and shallow workings of the soil, the effects are generally reverse of the old theory of deep culture, as I have never run the weeder in my corn in the driest times, but the ground was moist at one and a half inches deep. My belief is, the frequent stirrings attract the moisture from the atmosphere and subsoil; the ground never seems to get hard below. It also leaves the land in nice condition for seeding wheat.

Maryland.

[We think that our old friend has misunderstood Mr. Terry, for he is as earnest an advocate of shallow cultivation as any of us. But on his heavy clay soil, and on heavy soils anywhere, we have found it a great advantage to work corn deeply at first when there is no danger of tearing the roots at all. We use for this purpose what we called in Virginia a double coulter. Simply a pair of cutting coulters that turn no soil up at all, but can be run deeply to loosen the clay that gets packed about the young plants by the spring rains. On your mellow soil, this may not be necessary, but you have not the tough clay to contend with, or you would find that it is greatly beneficial to loosen it around the young plants at first, and to do this deeply. After that shallow cultivation and flat should be the rule. Your method of intensive cultivation is excellent and well suited to the land you work, and you are fortunate in having such a soil. But in a clay that cuts like cheese and packs down hard in spring rains something heavier than the weeder is needed at first.—ED.]

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Feeding Value of Bran and Corn.—W. W. Beeler, Powers, Ky.—"What is the relative feeding value of wheat bran, ship stuff and corn? Wheat bran and ship stuff are $18 a ton and corn 50 cents per bushel. I want to feed it to milch cows and weanling calves." There is no proper comparison between the feeding values of wheat bran and corn, since both will be needed to make a balanced ration for cows, the wheat bran furnishing a larger percentage of protein and the corn a larger percentage of carbohydrates, and to make a balanced ration these should be fed in the proper proportion. All wheat bran will make too narrow a ration, and all corn too broad a one for profit. For milch cows you will need about one part of protein to six parts of carbohydrates, and you cannot get this proportion by feeding either of these alone. Wheat bran is always better than ship stuff, as it contains a larger percentage of protein. Corn will usually average 10.5 per cent. of protein, 69.6 per cent. of nitrogen-free extract and 5.4 per cent. of fat. Wheat bran will average about 16 per cent. of protein, 53.9 per cent. of nitrogen-free extract and 4 per cent. of fat. Shorts will have about 14 per cent. of protein, 56.8 per cent. of nitrogen-free extract and 4.5 per cent of fat, showing that having more starchy matter, it approaches more nearly the corn than the bran does. Corn rated at 56 pounds per bushel would cost at 50 cents per bushel very nearly the same price per ton as the bran, and in feeding it at this price you would be paying more for protein than in the bran. But to make a balanced ration you will need some corn and bran, too. To fully understand the need of the balanced ration and the method of computation, write to the Secretary of Agriculture and ask him to send you a copy of Farmers' Bulletin No. 22, on "Feeding Farm Animals," and you will find in this full instructions that will enable you to prepare a grain ration that will give you the most profitable results. Ship stuff at same price as bran makes the protein cost more than in the bran, and it is always more economical to buy bran than ship stuff, and the bran is less apt to be adulterated with oat hulls and trash, as ship stuff often is.

Sundry Queries. — W. H. Vickers, Lowell, Kan.—"Have just set a small orchard of plums, pears and peaches. Have read of the destructive character of San Jose scale. Shall I begin spraying at once with the lime, salt and sulphur spray on the young trees, or does the insect bother young trees? We have now no signs of it that I can see. 2. Can I raise rhubarb from seed the first season large enough to force the following winter? How far apart should they be set in the forcing house? 3. You mentioned recently the Broad Windsor bean. I fail to find it in any of the leading catalogues. Where can I get them, as I would like to try them? 4. I have caught the cow pea disease from you and have been sowing them in every vacant place for several years. I have sown them the 10th of August and got ripe pods. What do you think of sowing them in asparagus about August and letting them die on the land? I have used commercial fertilizer on the bed. Have been a subscriber to The Practical Farmer for 12 years, and consider it the best farm paper in the country, but have never before asked for advice." 1. It is probable that if you got the scale on your trees you would not discover them until the trees were nearly killed, for when they start in and are in small numbers, it takes a skilled man with a magnifying glass to detect them. The age of the trees makes no difference. In fact, they rather prefer young trees. It will do no harm to the trees to spray them every winter with the lime, sulphur and salt mixture, for prevention is far better than cure. I believe that you will find Mr. Brown's plan of slaking the sulphur and lime together to answer just as well as the boiling. 2. No. To have good roots for forcing you should have good three-year-old roots. You will not need a forcing house. Any warm, dark cellar is as good as any other place, and the roots should be packed close together. We have grown rhubarb under the middle bench of a greenhouse where there were no pipes, packing them closely and then covering thickly with fresh, damp sphagnum moss. We sold the crop thus grown for ten cents a stalk in Philadelphia, or 50 cents at wholesale for bunches of five stalks. 3. We suppose that any of the leading seedsmen will furnish, or get for you, the Broad Windsor beans. Try Wm. Henry Maule, Philadelphia. They are usually worth about 50 cents a quart, we think. 4. We do not think that it would be advisable to sow cow peas among asparagus. They will rob the crop of much needed moisture, and if the asparagus has had as heavy a dressing of nitrogenous fertilizer as it should have, the cow peas will not do much nitrogen gathering, as they get lazy at this if the soil is well supplied with nitrates. Better keep the asparagus clean with cultivation and use all the stable manure you can get on it, and in early spring a dressing of nitrate of soda will be a wonderful starter.

Fertilizers and Manure.—H. Schollenberger, Hamburg, ——"1. Some time ago I saw a statement from a Tennessee party, who claimed that his finely ground phosphatic rock was worth twice as much as any dissolved rock, as his contained 32 per cent. of phosphoric acid available in second, third and fourth years, while the dissolved phosphate has 12 to 14 per cent. Will the ground rock all be available inside of five years? 2. Which is the most valuable to improve the land for four years, phosphatic rock dissolved in acid and containing 14 per cent. or finely ground rock containing 30 per cent.? 3. In what proportion and at what time should kainit be used in corn fields to destroy grubs and cut worms? Is the salt in kainit chloride salt, or what? 4. We farmers lose a great deal of the value of our fresh manure in the stable. How can we prevent it? Is kainit, land plaster or acid phosphate cheapest, or will the ground rock do?" 1. The pulverized phosphatic rock is doubtless valuable if you give it time to become available. For immediate effect on the crop it is not worth anywhere near as much as the acid phosphate, and the statement that it is worth twice as much is pure nonsense. The party has pulverized rock for sale and no acid phosphate. 2. For the rapid improvement of the land we would use the acid phosphate on a legume crop and return it to the soil in the roots and the manure made from feeding the tops. How long it will take for the insoluble phosphate in the pulverized rock to become all available there is no knowing. 3. If you never get rid of cut worms and grubs until the kainit destroys them you will have them a good while. It has been supposed by some, but without any reliable experiments, that the salt in kainit, which is mainly simple chloride of sodium, has some effect in destroying grubs in the soil, but if you put enough salt on the land to kill the grubs you will probably kill the plants, too. The potash in kainit is in the form of a sulphate, but it is associated with such a great proportion of common salt that it acts as a chloride. Kainit has a value for the percentage of potash it contains, and there may be some slight tendency in the salt to kill grubs, but it will not do to depend on it for that purpose. 4. If plenty of bedding is used in box stalls and the manure is allowed to remain and be constantly tramped, there will be very little loss. If the manure is thrown out under cover there will be a rapid loss unless some means is adopted to prevent it. Kainit is good, since the salt in it tends to keep the manure moist, and the potash adds to its manurial value. But it will probably not hasten its decay. Plaster is probably the cheapest material to use, taking the cost of the article only into the account. It not only prevents firefanging when liberally used and well mixed with manure, but it hastens the decomposition of the manure. Acid phosphate, or dissolved rock as some call it, is probably the best article that can be used where it is necessary to store manure, for it contains 40 per cent. of plaster, prevents the volatilization of the ammonia and adds phosphoric acid to the manure, so that though more costly per ton than plaster it is really cheaper, for its market price is based entirely on the phosphoric acid it contains, and you get the plaster free and also improve the plant food in the manure. But where it is practicable, the best way to save the manure from loss is to spread it on the land as fast as made.

Meadows and Corn Planting.—E. P. Churchill, Hallowell, Me.—"I notice in the paper that many speaking of land call it 'meadow.' I was always taught that a meadow was a low, swampy piece of land where coarse grasses grew and too wet to hold up a team. Then they talk about plowing instead of cultivating, and some tell how they plow their corn. We would make bad work plowing among corn. We want a fine-tooth cultivator and not a plow to turn up furrows. We do a lot of cultivating and light harrowing among crops and find that it pays well. Even a light hand rake is valuable in some crops of vegetables." When we were young we had the same idea of a meadow as our friend. But of late years it has become the fashion to call all mowing land meadow land, and the term is now so well fixed and understood that it is useless to make any effort to change it. Yes, people in some parts of the country are still so much in the ruts as to run a turning plow through their corn and bank up ridges against it, cutting the roots and damaging the crop by drying out the soil. But the gospel of deep preparation and shallow cultivation is continually being preached by The Practical Farmer, and one after another the farmers are getting out of the plow ruts and are cultivating their corn with weeders and cultivators. And the same improvement is spreading among the cotton farmers and the ridging of cotton and corn will, ere long, be a thing of the past, we hope.

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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It is highly important that these organs should properly perform their functions.
When they don't, what lameness of the side and back, what yellowness of the skin, what constipation, bad taste in the mouth, sick headache, pimples and blotches, and loss of courage, tell the story.
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MUTILATED PAGE

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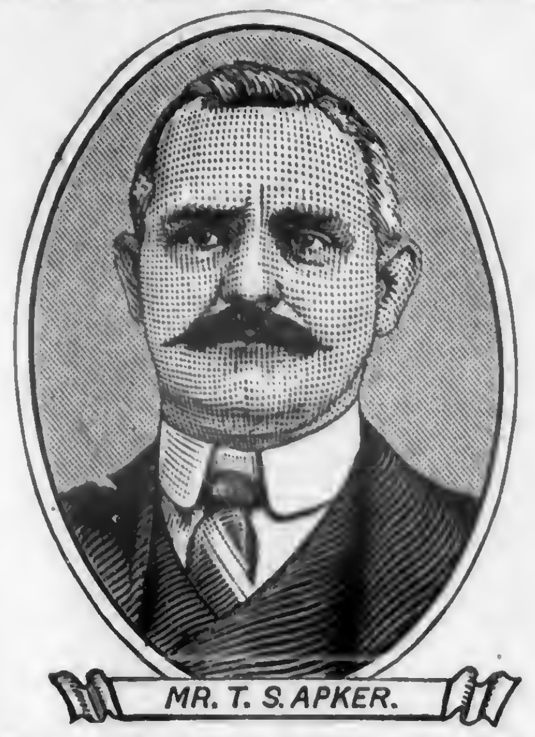
Swamp-Root is the Most Perfect Healer and Natural Aid to the Kidneys, Liver and Bladder Ever Discovered.

Swamp-Root Saved My Life.
A Farmer's Strong Testimonial
I received promptly the sample bottle of your great kidney remedy, Swamp-Root.
I had an awful pain in my back, over the kidneys, and had to urinate from four to seven times a night often with smarting and burning. Brick dust would settle in the urine. I lost twenty pounds in two weeks, and thought I would soon die. I took the first dose of your Swamp-Root in the evening at bed time, and was very much surprised; I had to urinate but once that night, and the second night I did not get up until morning. I have used three bottles of Swamp-Root, and today am as well as ever.
I am a farmer, and am working every day, and weigh 190 pounds, the same that I weighed before I was taken sick.
Gratefully yours,
Sec. F. A. & I. U. 504. T. S. Apker.
April 9th, 1903. Marsh Hill, Pa.



MR. T. S. APKER.

There comes a time to both men and women when sickness and poor health bring anxiety and trouble hard to bear; disappointment seems to follow every effort of physicians in our behalf, and remedies we try have little or no effect. In many such cases serious mistakes are made in doctoring, and not knowing what the disease is or what makes us sick. Kind nature warns us by certain symptoms, which are unmistakable evidence of danger, such as too frequent desire to urinate, scanty supply, scalding irritation, pain or dull ache in the back—they tell us in silence that our kidneys need doctoring. If neglected now, the disease advances until the face looks pale or sallow, puffy or dark circles under the eyes, feet swell, and sometimes the heart acts badly.
There is comfort in knowing that Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, fulfills every wish in quickly relieving such troubles. It corrects inability to hold urine and scalding pain in passing it, and overcomes that unpleasant necessity of being compelled to get up many times during the night to urinate. In taking this wonderful new discovery, Swamp-Root, you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that has ever been discovered.

Swamp-Root a Blessing to Women
My kidneys and bladder gave me great trouble for over two months and I suffered untold

MRS. E. AUSTIN.

misery. I became weak, emaciated and very much run down. I had great difficulty in retaining my urine, and was obliged to pass water very often night and day. After I had used a sample bottle of Dr. Kilmer's Swamp-Root, sent me on my request, I experienced relief and I immediately bought of my druggist two large bottles and continued taking it regularly. I am pleased to say that Swamp-Root cured me entirely. I can now stand on my feet all day without any bad symptoms whatever. Swamp-Root has proved a blessing to me.
Gratefully yours,
Mrs. E. Austin,
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Swamp-Root is pleasant to take and you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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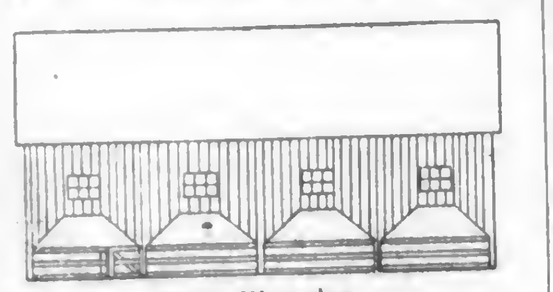
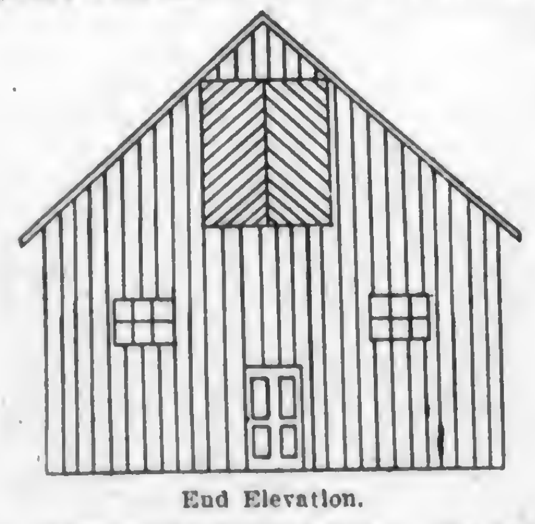
Live Stock and Dairy.

A Cheap Feeding Barn for Beef Cattle.

PROF. A. M. SOULE.

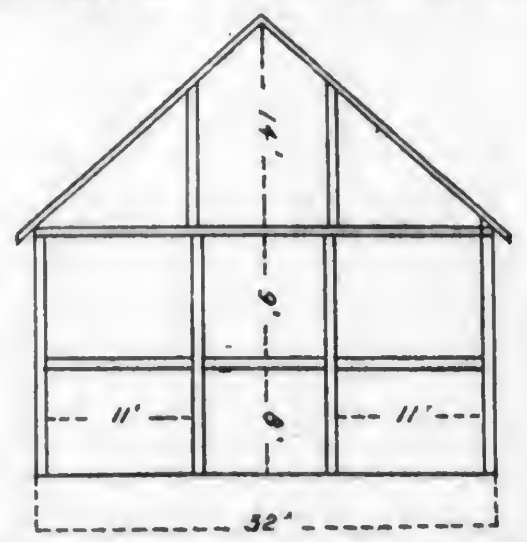
The growing interest in the feeding of beef cattle in the South is manifesting itself in many ways, as frequently, perhaps, in the desire for information relating to the cost, construction and arrangement of barns for winter feeding as in any other direction. For the purpose of answering, in a measure, some of the inquiries received by the writer concerning a cheap and convenient cattle barn for winter feeding purposes, the following illustrations and sketch have been prepared. There are many ways in which barns might be built and be well adapted for the needs of Southern cattle feeders, but the one presented has the advantage of being cheap, housing a large number of cattle considering the expense, and being well adapted to the climatic conditions prevailing in the South. The illustrations present the side and end elevations of the barn and the ground floor plan as well. This barn can be erected in many sections of the South for considerably less than $500. Off the railroad, where lumber is cheap, or where it can be cut and prepared on the farmer's own holdings, the cost will be proportionately less than in the vicinity of towns and cities where shipping facilities and the demand for lumber, in consequence, is greater. The barn described can be built at the present time in the vicinity of Knoxville, for $500, including the use of planed lumber, battens, No. 1 shingles, brick foundation walls where necessary and two coats of paint. Were it not desirable to paint the barn or plane the lumber or build a foundation, the cost would be considerably less. The structural timbers needed in the building are 4x6 inch posts, four to the side and 15 feet apart with two rows down the centre, placed along the manger so as not to interfere with the freedom of the animals or obstruct the feeding alley. The barn described has a brick retaining wall built under it on one end and brick piers set under all the other posts.


Front Elevation.


End Elevation.

In sections of the country where cedar is plentiful and the trees make a large growth, the timbers could be hewn out directly and set into the ground to a depth of 3 or 4 feet, thus avoiding the expense of foundation walls, though making the barn perfectly rigid. The writer has seen cedar timbers set in the ground as described that are still good 50 to 75 years after the erection of the barn. Should these timbers decay for any reason it would only be necessary then to saw them off at the top of the ground and place a large flat stone underneath. In the opinion of the writer it would always be better to follow this method in the beginning, though it may cost a little more and be inconvenient in sections of the country where it is hard to secure stones or brick.

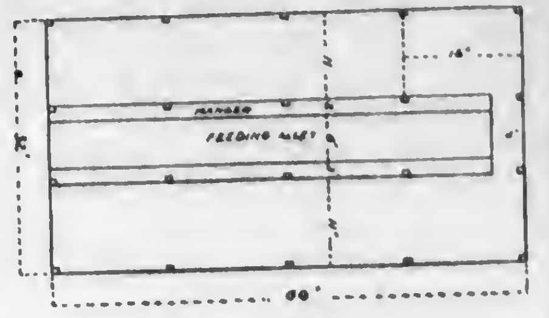
The barn is 60x32 feet, and will accommodate 40 head of cattle, and is so constructed that the manure from the beginning to the close of the feeding period is thoroughly protected from the weather and it is not intended that the animals should be tied. Of course, animals allowed their liberty in a barn of this construction should be dehorned, and of as nearly the same age and size as possible, so that all may have a chance at the feeding racks. The posts used in the barn are 18 feet high, making the stable 8 feet high to the joists, which are 2x10, and 9 feet from the joists to the plate, and 14 feet from the plate to the peak of the roof. Thus a large storage space is provided above for the housing of such cheap rough fodders as may be desirable for the winter feeding. The roof is also high and so strongly supported by the central lines of posts that it will carry a hay fork for use in storing clover, tame hay or any of the other cereals that may be used for winter feeding. The mangers in the barn are 2 feet wide and the feeding alley 6 feet. Hooded openings are left at convenient places in the flooring to throw the feed down into the mangers, and all the refuse is scattered under foot to add to the manure pile. A 4-foot passage is left at one end of the feeding alley and troughs, so that the cattle can move from one side to the other at will, or be kept apart by means of a gate, as deemed desirable. Partitions could also be run every 15 feet were it desirable to keep the animals separate. This would be an advantage where the animals are of different sizes, as they would generally be on the average farm. These partitions can be constructed of fencing, as shown in the side and front elevation of the barn, and will cost but little. Exit from the barn is provided by means of gates on the open side and doors on the closed side, for naturally the open side faces towards the south and the north side is closed in with suitable windows let in to provide light, and a large double door as a means of egress. The plan provides nearly 3 feet of manger space for each animal and 33 square feet of floor space, which is not too much for a 1000-pound steer. Where the animals are small, a larger number could be accommodated in the same building. The feeding alleys should be floored and the mangers set down on the ground. If coal cinders are freely used they will raise the manger supports off the ground and protect them from decay. The side of the manger next to the feeding alley should flare out and be about 3 feet high. The side next to the stable should not be more than two feet high and protected and strengthened at the bottom by a 2x6 scantling. If it were desirable chains could be fastened to this scantling and the cattle tied. If it is deemed desirable to have a silo and it certainly is for feeding cattle in the South where cotton by-products are to be used largely, it could be erected at one end of the barn and would open right into the feeding alley. The silage could be easily and quickly distributed by means of a car which could be run on the inner and upper side of the mangers and from which the attendant could throw the silage directly into the feeding troughs. A very excellent silo could be built for $100 additional. Should it be desirable to enlarge the feeding operations another barn could be constructed on the opposite side of the silo large enough to hold as many more cattle.



Elevation Showing Construction Timbers.

Some form of shelter for the winter feeding of cattle is advisable in the Middle South, for the cold, wet rains are as discomforting and injurious to animals as the more severe weather of a Northern climate. Besides that, it is necessary that the food be properly housed and protected from the winter rains, and especially is it important that the feeding troughs be so protected. A barn constructed after the plan suggested permits of an abundance of fresh air and sunshine to enter the stable, while still protecting the cattle from inclement weather, and above all, it gives adequate protection to the manure, an item of the greatest importance to the Southern farmer.

Tennessee Experiment Station.



Ground Plan.

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Sometimes a subscriber kicks because he has to pay a dollar for his subscription while others through the Blocks of Six only pay 50 cents. The paper is sent for 50 cents at a loss. It is only for the purpose of inducing our subscribers to go out and raise these Blocks of Six and thus extend the circulation of The Practical Farmer, and increase the income from its advertising.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Indigestion.—In July we bought a cow giving at that time three and a half gallons of milk, which she continued to give until about two months ago, when she began giving less, until now she gives about one gallon. When we bought her we could not ascertain whether she was with calf or not but several weeks ago her milk began having a very peculiar odor and taste; it was so bad we could not use butter or sour milk; it seems all right and sweet, so we concluded she must be with calf, as we have known of milk being so affected when cows were in that condition, but only lasted a short time. We wrote to the man from whom we bought her, and he says she will bring a calf in two or three months. We only have his word, as she is not looking any more like it than when we bought her, but she has not shown any sign of being in heat since we got her. For the past three weeks it takes three or four days to get her milk to clabber, and when it does turn we have churned half a day and never got one speck of butter, although her milk is rich as can be; the milk just foams all the time we churn. We have made beautiful butter (our customers say the finest they have ever bought in this place) ever since we got her, until the last few weeks. Her surroundings and food are just the same. We feed bran, cotton seed meal, fodder and pea hay.

Marion, N. C. MRS. A. L. LITTLE.

Give her a pound dose of epsom salts in two quarts of warm water, to which add a cupful of molasses and a tablespoonful of ground ginger root. After physic ceases to operate, give her an ounce of hyposulphite of soda and two drachms of powdered gentian root three times daily in gruel from bottle. Change feed, leaving out the cotton seed meal. See that all food is first-class in quality and free from taint or mould.

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—A specific for impure blood and all diseases arising therefrom.
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Beware of so-called Elixirs—none genuine but Tuttle's.
Avoid all blisters; they offer only temporary relief, if any.

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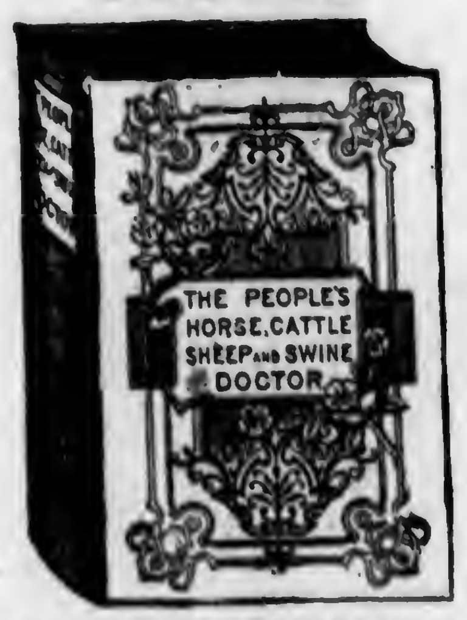
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THE PEOPLE'S
HORSE, CATTLE, SHEEP AND SWINE
DOCTOR
THE MOST VALUABLE BOOK for the farmer who keeps stock, ever published. Gives a description of every disease, and the proper medicines and treatment. It covers the ground completely. Contains 384 pages, is handsomely illustrated and bound in cloth. Sent to any address on receipt of
ONE DOLLAR
We will send this book and THE PRACTICAL FARMER one year for only $1.25.

Cholera.—I would like to know what ails my hogs and what to do for them. They refuse to eat; get red blotches all over, and their ears get black, and they have diarrhœa. I think it is hog cholera. READER.

There can be little question that the disease is cholera, and you should at once separate well from sick hogs and place former in a clean pen on new ground not formerly occupied by swine. Use disinfectants freely about pens and whitewash once a week. Also mix Chloro-Naptholeum in slop two or three times a week at rate of a pint to the barrel. It would be well to call in a local veterinarian to take charge and diagnose the disease.

Colic.—Will you please tell what was the matter with my horse? The horse was a high bred driver about 12 years old; thin skinned, etc. I have been accustomed to feed two quarts of cracked corn and two quarts of oats at a feed. I run out of corn one day and substituted ten ears of corn on the cob and the oats as before. After the first feeding of this drove him four miles and he was taken sick; he wanted to lie down and roll, then he would get up and go a short distance and then lie down again, sometimes rolling and sometimes staying quiet. I gave him ginger and one-half pound of salts, and in a few hours I gave him another half pound of salts. He was sick about 30 hours, and during that time I gave him a pound and a half of salts and a pint of gin to keep up his strength. He died very suddenly. The last two hours he sweat profusely and did not lie down so much as during the first of it, and would keep tossing his head and turning around, and finally dropped dead suddenly. F. H. LAWRENCE.

South Hadley, Mass.

If you had given raw linseed oil in pint doses, rather than the salts, the horse might have been saved. There was at first spasmodic colic, which ran into inflammation of the bowels (enteritis), which is usually fatal. Salts act as an irritant in such cases. A suitable dose at first would have been half an ounce of fluid extract of cannabis indica, one ounce of turpentine and a pint of raw linseed oil.

Rheumatism.—I have seven pigs; came first of June. When about two weeks old they were out in a heavy rain storm; next morning were all lying down shivering; kept growing worse until most of them did not suck. They rallied and commenced growing nicely, then would be taken again the same way. When about ten weeks old took them from the sow; did not learn to eat very readily. Since then they have done about the same. Seems to affect their right hind legs most. Their joints have become enlarged and legs crooked. They eat well when they can get up; are worse in wet weather.

Darien Centre, N. Y. IRA B. JOSLIN.

Pigs are apparently affected with rheumatism, which would be likely according to your account. See that they have a comfortable bed in stable with dry floor. Feed middlings, milk and dried blood meal. If they have another attack give twice daily 5 grains each of quinine and salol in apple or some other way, and rub affected parts twice daily with soap liniment.

Blackleg.—We have lost two calves 10 months old and one 2-year-old steer, and would like you to inform me what the trouble is, and a cure if possible. The 2-year-old steer was not acting right on Friday morning but would eat some; was stupid and did not chew his cud; had no noticeable fever; was a little worse on Saturday, but still would eat some. Fed him some peach tree leaves. Sunday morning was dead. Skinned him and made a close examination. On his neck, brisket and sides half way up to his flank, and on his belly was black and bloodshot; looked as if he had been beaten with a club. When cut bloody water would run. The insides were all right as near as I could tell. Around the cavity of the lungs was about a gallon of blood; had not jellied but was black and thin; there was also some black spots on the legs. Steer has run on range all summer; has been eating a good many acorns for the past six weeks, but was in good shape and thrifty all the time. The two calves were affected the same way, except they were more spotted. H. T. RAINWATER.

Clinton, Ark.

Cattle died of blackleg and you have given a correct statement as to the way in which it affects animals, with the exception that a swelling is usually found before death, and a crackling sound is given forth when this tumor is rubbed with the fingers. There is no cure for the disease, but it may be prevented successfully by inoculating with Pasteur anti-blackleg vaccine. Have all of your young cattle inoculated at once.

Strangles.—We have a 2-year-old mare, weight 1,250 pounds, that has had a cough for about a month and has run at the nose for about 10 days and now is swelling under the throat. I. M. TAYLOR.

South Auburn, Pa.

When a horse is seen to be coming down with strangles (distemper), characterized by swelling and formation of an abscess under the jaw, apply hot flaxseed poultices twice daily until the abscesses soften, at which stage pen it freely directly in centre of space between lower jaw, evacuate the pus, wash out with antiseptic solution, then continue poulticing for a few days longer. Internally give half a drachm of fluid extract of belladonna leaves, one drachm of fluid extract of gentian root and half an ounce of sweet spirits of nitre three times daily in water as a drench, or with syringe in mouth. Do not give aconite or other medicine to reduce fever and retard formation of pus. If fever runs high and bowels are costive small doses of glauber salts (two to three tablespoonfuls) may be dissolved in the soft feed or drinking water twice daily until bowels become natural.

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An increased circulation of The Practical Farmer means a larger income from advertising and more money with which to make improvements in it. Every Block of Six helps in that direction. If all our subscribers would send a Block with their renewals, it would mean a still better paper for our friends during 1904.

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Paralysis.—I have a sow that seems to be very weak in her hips. I have been feeding her some corn, and she has been running on the mast all fall. A few days ago, while still apparently well, she became stricken in her hips, at first slightly, but it gradually grew worse and at last she was compelled to drag her hind quarters. She still eats heartily. My neighbors all say that "she is down in her loins," and that "the best remedy is to shoot her." J. C. WOODSON.

Black Rock, Ark.

If the sow is still alive and hearty when this reaches you do not shoot her, as there is a chance that she may recover if treated properly. The best treatment is to puncture fire the loins. Sharpen an 8-inch length of baling wire and fit in handle. Heat free end of wire red hot, and with it puncture a double row of deep holes into muscles along each side of spine at loins. Afterwards rub parts daily with soap liniment. Physic the sow with a four-ounce dose of epsom salts; then give her fluid extract of nux vomica three times daily, commencing with three drops at a dose and increasing a drop daily until the muscles are seen to twitch involuntarily, at which stage go back to first dose and repeat. Feed her on milk, middlings or shorts and dried blood meal, along with some succulent food, such as roots or silage. Mix lime water freely with all food and drink. Such cases when not due to known injury, usually come from lack of bone and muscle forming food.

Castration.—What age is best to castrate mule colts, and also horse colts? Is it best for them to be standing or lying down when the operation is being performed? What instrument is best to do the work with? Is it best to use clamps to prevent bleeding? What medicine to use to heal the cut? Please explain all about the operation. SUB.

Chick Springs, S. C.

Both mule and horse colts should be castrated at not over two years of age in good weather, before fly time. We are opposed to the castration of young foals, as it renders them too effeminate. We prefer to cast a colt for the operation, but it may be safely done standing, by an expert, using an emasculator. Modern operators use either the emasculator or ecraseur, whether the colt is castrated standing or cast. Clamps should not be used; they are obsolete and often cause trouble from scirrhus cord. The chief points in successful castration are to have the animal perfectly healthy, use clean instruments with clean hands, use disinfectants when operating, make a free incision and cut slowly with the instruments. Afterwards medicine is not required to heal wounds. See that patient is well exercised daily and once daily until white pus is seen discharging from the scrotum, rip the wounds open with the finger to prevent cord becoming attached to the healing lips of wound, or collection of blood clot or pus.

Broken Wind.—I have a colt past two years, that is wind-broken; can't discover it until it is warmed up. Pants for breath; is hearty and in thriving condition.

Derby, Ind. GEO. H. SPENCER.

It would be necessary to locate cause of condition described, and this would require a personal examination, so that you will have to employ a local veterinarian. If we can be of assistance after this has been done kindly write again, giving diagnosis of veterinarian.

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In New Quarters. — The International Stock Food Co., Minneapolis, Minn., have just moved into the new factory which they purchased last summer. This building was the former Exposition Building, and gives the company over 16 acres of floor space, the main office being 60x360 feet. While this seems large quarters for a stock food company, we are assured that this large amount of space is required for the business, which has grown to phenomenal proportions. It is a striking testimony to the high character of the company that it has been compelled to provide such mammoth facilities for the proper transaction of its business. The company has also established a branch factory in Toronto, Can., to take care of the Canada business, which is increasing very rapidly.

AN INSTANT'S PAIN and the dehorning job is smoothly done, no crushing or bruising if the KEYSTONE Dehorning Knife is used. Easy, sure and most speedy in operation. No evil results can follow. Cuts from four sides at once. Endorsed by veterinarians. Guaranteed. Send for free circulars.
M. T. Phillips, Box 43, Pomeroy, Pa.

Lump Jaw
Save the animal—save your herd—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use
Fleming's Lump Jaw Cure
No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free illustrated book on Lump Jaw and other diseases and blemishes of cattle and horses. Write for it today.
FLEMING BROS., Chemists,
225 Union Stock Yards, Chicago, Ill.

Dr. Shoop's
Rheumatic Cure
Costs Nothing If It Fails.
Any honest person who suffers from Rheumatism is welcome to this offer. For years I searched everywhere to find a specific for Rheumatism. For nearly 20 years I worked to this end. At last, in Germany, my search was rewarded. I found a costly chemical that did not disappoint me as other Rheumatic prescriptions had disappointed physicians everywhere.
I do not mean that Dr. Shoop's Rheumatic Cure can turn bony joints into flesh again. That is impossible. But it will drive from the blood the poison that causes pain and swelling, and then that is the end of Rheumatism. I know this so well that I will furnish for a full month my Rheumatic Cure on trial. I cannot cure all cases within a [illegible] It would be unreasonable to expect th[illegible]st cases will yield within 30 days. Th[illegible]ment will convince you that Dr. Shoop's [illegible]matic Cure is a power against Rheumatism — a potent force against disease, that is irresistible.
My offer is made to convince you of my faith. My faith is but the outcome of experience—of actual knowledge. I KNOW what it can do. And I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism. I will then arrange with a druggist in your vicinity, so that you can secure six bottles of Dr. Shoop's Rheumatic Cure to make the test. You may take it a full month on trial. If it succeeds, the cost to you is $5.50. If it fails, the loss is mine and mine alone. It will be left entirely to you. I mean that exactly. If you say the trial is not satisfactory I don't expect a penny from you.
I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, for it is dangerous to take them. You must get the disease out of the blood. My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met, and in all of my experience, in all of my 2,000 tests, I never found another remedy that would cure one chronic case in ten.
Write me and I will send you the book. Try my remedy for a month, for it can't harm you anyway. If it fails the loss is mine.
Address Dr. Shoop, Box 577, Racine, Wis.
Mild cases not chronic are often cured by one or two bottles. At all druggists.

Bickmore's Gall Cure cures while you work the horse of all Harness, Saddle or Collar Galls, Scratches, etc. Sample mailed for 10 cents.
BICKMORE GALL CURE CO., Box 518, OLD TOWN, ME.

Kentucky Jack Farm. A fine lot of Kentucky bred and big black Spanish Jacks, Jennets and Mules for sale. Write or see us before you buy.
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Send 10c for Prof. Woll's Book on Silage.

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Registered Trade Mark
SPAVIN CURE
BEGIN TREATMENT AT ONCE. Have a Permanently Sound Horse for Spring.
Cured horses are absolute certainties as to the possibility of the remedy for your own case. Such results, as shown in our booklet, by business men whose reliability can be readily ascertained, have carried "SAVE-THE-HORSE," over skepticism, prejudice and uncertainty. Send for booklet and copy of written guarantee, which is as binding to protect you as the best legal talent could make it. No man need see his horse suffer and become incapacitated.
"SAVE-THE-HORSE" POSITIVELY AND PERMANENTLY CURES BONE AND BOG SPAVIN, THOROUGHPIN, RINGBONE (EXCEPT LOW RINGBONE,) CURB, SPLINT, CAPPED HOCK, WINDPUFF, SHOE BOIL, WEAK AND SPRAINED TENDON AND ALL LAMENESS. CURES WITHOUT SCAR, BLEMISH OR LOSS OF HAIR. HORSE MAY WORK AS USUAL.
$5.00 per bottle. Written guarantee with every bottle. Need of second bottle improbable, except in rarest cases. If your case is different we advise frankly as to possibility of the remedy effecting a cure. Give veterinarian's diagnosis, if he is competent. Describe age, development, location of swellings, lameness, and way horse carries and holds leg. $5.00 per bottle at all druggists and dealers, or sent express prepaid.
TROY CHEMICAL CO., Troy, N. Y. Also manufacturers of Veterinary Pixine.

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ARE GOOD COWS AND A U. S. CREAM SEPARATOR
They bring an owner an annual dividend of 100 per cent. on each cow.
Try the Combination and Prove It!
A $40 Cow and a U. S. Separator will earn $40 in one year
Our catalogues will explain why the U. S. is the best; write for one.
For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.
Vermont Farm Machine Co.,
BELLOWS FALLS, VT.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Does Your Garden Pay?

You can make it pay better by reading How to Make the Garden Pay by T. Greiner. It tells all about garden matters, fully illustrated and cloth bound. Price $2. It will be sent you absolutely free if you send us a block of 6 yearly subscriptions to The Practical Farmer and $3.00 for same.

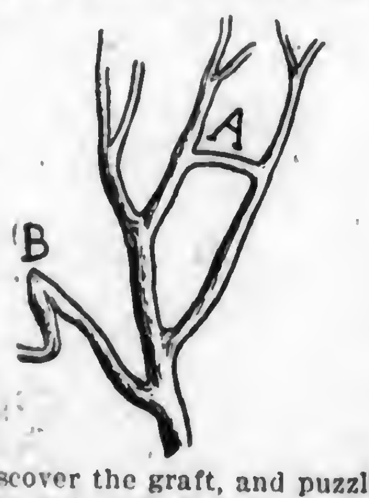
It's up to You!

Talks on Timely Topics.

Supposed Freaks of Grafting, etc.—A correspondent of Ohio Farmer tells of a natural graft or "rung," found connecting two limbs of one of his apple trees. In trying to explain this natural freak, the Ohio Farmer says:

"These natural grafts are to be seen occasionally but this is the first we have known of on an apple tree. What starts them cannot be exactly ascertained in each case, but in some manner the small twig becomes attached to the neighboring limb and the union becomes stronger and more perfect each year. A wound may have presented the opportunity for the first connection. The chances are very small for such freaks, however, as is shown by the fact that they are so rare. Such a connection may easily be made by grafting the end of a twig from one limb into another limb just as a scion would be inserted into the side of a large limb."

No, the real causes of such natural freaks cannot always be ascertained with absolute certainty. But suppose a lad who in school, or by observing others doing the grafting process, has just become acquainted with some of the wonders of the grafter's art, and while going through the orchard or a piece of woods, just takes a notion to practice, or to show something of it to a companion, and suppose that in a spirit of "fun" or for amusement, he splices the cut ends of two twigs coming from adjoining limbs, together and binds them together so that they will grow together, forming in a year or two just such a connection as that shown at A. Then, a few years later, someone will come along, discover the graft, and puzzle his head, how nature managed to form it in just that way, never dreaming that it was a boy's hand that aided nature to accomplish this "freak." At B is shown another freak which we occasionally come across in the woods or orchards. This probably was due to the partial breaking of a limb which grew fast again and then took a new upward turn. The graft connecting two limbs has often been employed for the purpose of preventing all danger of trees splitting where the main body of the tree divides into two or more branches. Such connections are very easily made, and make a safe tree.



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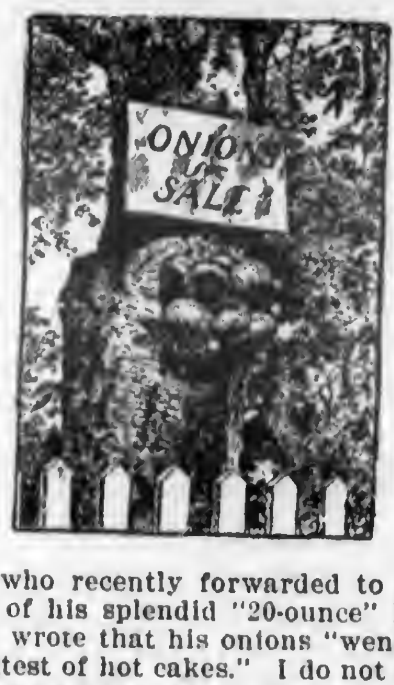
Current Comments.

The New Onion Culture.—G. W. Carlson, of Oronogo, Mo., asks for more particulars about the new onion culture. He has good land, and also good markets for all kinds of vegetables. I do believe that every grower who has these advantages, should surely grow at least some Prizetaker or Gibraltar onions (which are of the sweet Spanish type) by the plan now known as "the new onion culture." This plan is fully explained in a book which can be obtained from The Farmer Co., of Philadelphia, for the publisher's price. (New Onion Culture, by T. Greiner; illustrated; cloth binding. Price 50 cents.) The main feature of this plan is the starting of the plants under glass (in February or March) and transplanting to open ground in April or May. It greatly increases the chances of success over the old plan of sowing seed in open ground. It invariably increases (doubles or trebles) the yield, and the bulbs are usually large and fine. Where customers have once learned to appreciate the sweetness and tenderness of the large bulbs, they are always willing to pay much more than ordinary onion prices for them, although hotels and boarding houses, for their ordinary trade, prefer smaller onions, those, namely, that can be cooked and served whole. To work up a local trade, and thus secure highest retail rates, the plan of advertising the onions (or whatever other crop it may be) adopted by the editor of the Rural New Yorker, and here illustrated, may be well recommended. Mr. Collingwood, who recently forwarded to me a basket of his splendid "20-ounce" Prizetakers, wrote that his onions "went like the hottest of hot cakes." I do not make my rows two feet apart, nor do I cultivate the onions with a horse. A distance of 14 to 16 inches seems to be all that is needed between the rows, and we can do better and closer work with the hand wheel hoe than with any horse implement yet devised. Only when you have a good deal of good land, would it be advisable to try the wider distance and horse cultivation.



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"Crop Growing and Crop Feeding," by Prof. W. F. Massey, will cost you nothing if you send us a Block of Six yearly subscriptions to The Practical Farmer at 50 cents each. "Crop Growing and Crop Feeding" tells how to grow large crops and at the same time increase soil fertility. We send it free for a Block of Six.

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Notes From a Carolina Garden.

We are having the longest continued and earliest cold that has occurred here for years. The weather reports show that for weeks past the minimum temperature here has been lower than the minimum temperature in Philadelphia, the difference being that here the minimum is reached only a few hours before day, and after the sun gets up it pushes up the mercury and the freezing of the night is dissipated, while in the North it freezes longer and in daylight. Hence, though we have had uncommonly cold weather, there is no frost in the ground, and the lettuce plants outside, on which we are depending to replant the frames after the Christmas crop is off, are still alive. But the dry weather in the fall caused a general failure of early cabbage plants, and the truck farmers are all short of plants, while some have none at all, and are hunting in all directions for plants. I could readily sell half a million cabbage plants to the market gardeners if I had them.

Some garden seeds, we are informed, will be very scarce owing to a failure of the crops from wet weather North. I was in a seed store a day or so ago when a market gardener came in and said that he would want 14 pounds of cucumber seed. The seedsman smiled and said, "You can just as easily get that weight of gold dust. I expected to have 15 tons of cucumber seed, and got only 5,000 pounds, and that is all sold now." I felt glad to know that I have cucumber seed enough left over from last year for my garden, and it is as good, or even better than last year when it was perfectly fresh. I find that there is always a great advantage in having a surplus of such seeds as will keep for several years so that a sudden scarcity will not leave me in the lurch.

Then my first study after Christmas is to decide what seeds I want and to send for them at once. When one puts off getting his garden supplies till he wants to plant he is apt to be delayed in getting them, for the seedsmen are then rushed by the people all over the country who do the same thing. Here, where we begin our out-door gardening in January, putting in our early peas the first good day after New Year's, and soon after that are busy getting in the early Irish potato crop, which we try to get in the ground by the middle of February, there is a much greater importance for not delaying getting of seed.

Our market gardeners are now depending very largely on the Alaska pea for their early planting, and most of them have already laid in their supply. The Alaska is a good early pea for anyone's planting. I plant it and the Nonpareil and Maule's Earliest, and a little later plant the main table crop of the large wrinkled peas, as these may rot in the ground if planted too early. One pea which we have tried for two seasons, we will drop. This is the Gradus or Prosperity. The man who waits for it to bring prosperity to his garden we think will wait a good while, for it is, in our experience, the most unproductive pea grown. For general use we stick to our favorite, the Premium Gem. Then this season we intend to plant a great many more of the Harbinger. This can be planted in rows a foot apart, and in this way will give, I think, as many peas as the taller ones, for it only grows six to eight inches high, but bears large pods of fine, large peas. I consider it the best dwarf pea. The Wonderful lettuce, which was produced by a gardener in this neighborhood, is beating the Big Boston out of sight in our frames, and I expect hereafter to grow it in place of the Big Boston. I had a notion that it would not make the mid-winter crop, and only put it in the frames because I was short of the Big Boston. But I find that it is far ahead of the Boston and makes larger and harder heads. It is also a long ways ahead of the Grand Rapids set at the same time. These frosty nights and bright, sunny days are tough on the onion tops, and they show signs of frost bite, not from the degree of cold, but from the sunshine striking them while frosted. The winter radishes have suffered in the same way, and having been sown rather late are having a hard time of it. In the flower garden the Paper White narcissus are above the ground and their tops seem to be unhurt thus far.

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The Chufa is not a novelty. We grew it a generation ago. It may be interesting, but hardly of much economic importance.

Wintering Onions.—One of our friends reports having put a lot of onions in the cellar of an unoccupied house, and covered them with some old sacks and blankets, for the purpose of keeping them from thawing until a real warm spell. They wintered nicely, and came out in good shape in spring.

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Catalogue.—Write to the Chattanooga Nurseries, Chattanooga, Tenn., for catalogue and prices of fruit trees, etc. It will interest you. Mention The Practical Farmer when writing for the catalogue.

'Green's New Strawberry Given Away.'

We will mail you six plants of Pineapple Strawberry, the largest and best on earth, pineapple flavor, most productive, vigorous and healthy, bears fruit at once, if you will send us now

25 Cents For GREEN'S FRUIT GROWER AND HOME COMPANION For Six Months.

Established 22 years ago. It has 100,000 subscribers. Capital $100,000. Luther Burbank says it is the best family fruit journal in America. Send 25 cents now. Plants will be mailed in April. Mention this paper, and get 100 page Fruit Book Free. Address.

GREEN'S FRUIT GROWER, Rochester, N.Y.

BUCKEYE CULTIVATORS are best. Free catalogue tells why. P. P. MAST & CO., 11 Canal St., Springfield, O.

BLIZZARD AND HORSE CALKS, Sharpen your own horse. No Waiting at the smiths. Liberal prices to Agents. S. W. KENT, Cazenovia, N. Y.

STARK TREES best by Test—78 Years. LARGEST Nursery. FRUIT BOOK free. We PAY CASH Weekly. WANT MORE SALESMEN. STARK BROS, Louisiana, Mo.; Dansville, N. Y.; Etc

GIVE YOUR STOMACH A NICE VACATION.

Don't Do it by Starving it Either—Let a Substitute Do the Work.

The old adage, "All work and no play makes Jack a dull boy," applies just as well to the stomach, one of the most important organs of the human system, as it does to the man himself.

If your stomach is worn out and rebels against being further taxed beyond its limit, the only sensible thing you can do is to give it a rest. Employ a substitute for a short time and see if it will not more than repay you in results.

Stuart's Dyspepsia Tablets are a willing and most efficient substitute. They themselves digest every bit of food in the stomach in just the same way that the stomach itself would, were it well. They contain all the essential elements that the gastric juice and other digestive fluids of the stomach contain and actually act just the same and do just the same work as the natural fluids would do, were the stomach well and sound. They, therefore, relieve the stomach, just as one workman relieves another, and permit it to rest and recuperate and regain its normal health and strength.

This "vacation" idea was suggested by the letter of a prominent lawyer in Chicago. Read what he says: "I was engaged in the most momentous undertaking of my life in bringing about the coalition of certain great interests that meant much to me as well as my clients. It was not the work of days, but of months. I was working night and day almost, when at a very critical time my stomach went clear back on me. The undue mental strain brought it about and hurried up what would have happened later on.

"What I ate I had to literally force down and that was a source of misery as I had a sour stomach much of the time. My head ached, I was sluggish and began to lose my ambition to carry out my undertaking. It looked pretty gloomy for me and I confided my plight to one of my clients. He had been cured by Stuart's Dyspepsia Tablets and at once went down to a drug store and brought a box up to the office.

"I had not taken a quarter of that box before I found that they would do all the work my stomach ever did; and as a rest or vacation was out of the question for me, I determined to give my stomach a vacation. I kept right on taking the tablets and braced up and went ahead with my work with renewed vigor, ate just as much as I ever did and carried out that undertaking to a successful issue. I feel that I have Stuart's Dyspepsia Tablets to thank for saving me the handsomest fee I ever received as well as my reputation and last but not least my stomach."

Stuart's Dyspepsia Tablets are for sale by all druggists at 50 cts. a box.

Buy a Hallock Weeder. Catalogue free. HALLOCK WEEDER & CULTIVATOR CO., York, Pa.

SALZER'S Seeds Never fail. Send 10c. for catalog and rare seed samples worth $10 to any farmer. JOHN A SALZER SEED CO., La Crosse, Wis.

200,000 PEACH, 100,000 APPLE, 20,000 Sour Cherry. Low prices. Catalogue. WOODVIEW NURSERIES, Box 3, Mt. Holly Springs, Pa.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

SAN JOSE SCALE and other insects controlled with Caustic Potash Whale-Oil Soap No. 3. Send for circulars. James Good, 939 N. Front St., Phila., Pa.

125 strawberry plants (by mail, postpaid) for only $1.00. 3 varieties, our selection. Send for catalogue. John Lightfoot, Sherman Heights, Tenn.

COW PEAS, Second Crop POTATOES, Collard Seed, Etc. Z. M. L. JEFFREYS, Goldsboro, N. C.

APPLES potatoes, hay, straw and produce sold on commission. Prompt returns. Careful attention to every shipment. Est'd 59 years. GIBBS & BRO., Com'n Merchants, PHILA., PA.

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

The Fruit Grower, published at St. Joseph, Mo., will be sent 1 year if you send 25c and names of 10 farmers who grow fruit. "The Fruit-Grower is the best fruit paper we have, East or West."—Prof. Price, Dean Ohio Agl. College. Illustrated. Regular price 50c a year. For sample address FRUIT-GROWER CO., 3112, 7th St., St. Joseph, Mo.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Propagating Mistletoe.

The sight of mistletoe at the holiday season often leads to an inquiry how to propagate it. It is by no means easy to increase it. Naturally its increase is by seeds, and this is the plan to be pursued by those who wish to experiment with it. But the length of time it takes to get a plant started is discouraging to commence with. Seeds fully ripe are obtained, and these seeds are simply placed on a branch of a tree and kept in place with a strip of muslin tied around the branch. There is no sign of life for a year, and then merely a little swelling of the bark visible. Still another year elapses before branches have been formed. The bark is not cut to admit the seed, just simply tied on only to the clean outer surface. Mistletoe prefers the apple tree of all trees, though it will grow on others, such as poplars, lindens, maples, mountain ash and others. Crush the seeds when placing them on trees; the viscid pulp then hardens and helps keep the seeds in position, and the muslin strip makes all secure.

Covering Hardy Flowers.

There are many nice hardy plants which are thought not hardy and are cared for indoors all winter long, which live outside very well if covered with a few leaves. Many a one in this vicinity cover their English daisies, double and single; primroses, cowslips, Japanese chrysanthemums, pansies and many similar plants, placing but a few forest leaves about them, and have strong, thrifty plants when spring comes. A good spread of manure is good for the root protection, but the tops of plants carrying foliage are the better for having forest leaves over them. They do not smother the foliage as manure does, but permit of air getting to it, which keeps them alive. All old-fashioned garden plants are the better for having an application of manure now. Pæonies delight in rich soil, especially when moist as well. A little manure must be spared from the vegetable garden for the flowers. The pleasure given by a number of blooming plants is well worth seeking for. It is one of the best investments on the farm.

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"How to Make the Garden Pay" will teach you how to raise larger garden crops in 1904 than you did in 1903. It is written by T. Greiner, the well-known authority. We will send a copy free for a Block of Six yearly subscriptions to The Practical Farmer at 50 cents each.

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Horticultural Queries.

Planting Peach Trees.—I have 1,000 June budded Elberta peach trees to transplant to mulatto land, stiff red clay subsoil. How far apart ought they to be put; how deep; what kind of commercial fertilizer would bring the best fruit? How should trees be treated after planting up to bearing?

Winston, Ga. J. B. COWAN.

You should set your peach trees 12 feet apart each way. In good soil, 15 feet. Plant them to the same depth they occupied before. If the uppermost roots are three inches below the soil it is enough. If you have barnyard manure use that. If not, wood ashes are very good, so is hen manure, but only in small quantities at first. Cultivate all summer, but do not tear the roots when cultivating. When you set the trees prune them in closely; afterwards a little pruning back every summer is of advantage to them.

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Horticultural Notes.

Japanese Anemones are grand flowers for late fall, flowering in late October and keeping in bloom quite a while.

The Eucalyptus.—A great deal is being written of eucalyptus plants and their value. Our readers should understand the eucalyptus is not a hardy plant in this country.

Look at the Fruit Trees.—Take an early inspection of your fruit trees to see if scale or other injurious insects have made lodgment. Many trees are going to be destroyed by scale, and he who preserves his trees will be well rewarded for it.

Fuchsias can be housed in a cold cellar all winter. All they want is to be free from frost. The leaves drop, of course, and only sufficient water must be given to prevent the plants dying. Many nice summer blooming plants can be kept in the same way.

Keeping Tree Seeds.—If prevented from sowing any tree seeds in autumn, before the ground freezes up, keep them mixed with slightly damp earth until spring, sowing them then. They will grow as well as if sown in the fall. Some nut seeds are the better sown then, as mice and squirrels take them if sown in the autumn.

For Fruit Growers.—Green's Fruit Grower will be a reliable guide to our friends in all matters relating to fruit culture. It makes a specialty of it. The Business Management will send it and The Practical Farmer, both for one year, and The Practical Farmer Almanac for 1904 for $1.10, only 10 cents more than The Practical Farmer alone.

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The Practical Farmer Fountain Pen is handy every day in the year. Carried in your pocket and always ready for business. We send one free for a Block of Six yearly subscriptions to The Practical Farmer and $3 to pay for them.

POULTRY.

All letters, inquiries and requests in reference to poultry, should be addressed to the Poultry Editor of The Practical Farmer, P. O. Box 1317, Philadelphia.

Seasonable Suggestions.

Winter Pasture.—A patch of rye, crimson clover, rape, or possibly vetch, near the poultry house, is a good thing to have for poultry pasturage during moderate and open weather in winter. But for weeks and possibly months at a time, during the colder half of the year, the hens must be kept housed, or practically so. The only pasture we will then be able to provide are beets, cabbages or other green stuff from our stored vegetables. The loose cabbages which we find among our late cabbage crops, are just the thing for poultry, and should be carefully saved up and stored in some convenient place, an outbuilding, a root house, or even a corner in the house cellar. An exchange says: "Another thing that should be attended to, is to store some succulent green food. Cabbage, beets, small potatoes, all can be utilized by the hens, or if there is a silo on the place, a small quantity of ensilage each day will take the place of vegetables. Some good clover or alfalfa hay should be secured and cut in ¼-inch lengths. If there is no cutter handy, the leaves and chaff can be scraped up and fed, or they may be broken up with a flail." Apples with us are plentiful this year, and they are easily kept until spring. Even the windfalls and culls may thus be utilized. They make a most excellent green food for hens. We raise cattle beets and carrots in quantity, and make use of them for poultry in the same way, usually by feeding them whole. The hens pick at them, and eat them all up clean.

Gasoline for Lice.—We see it stated that gasoline is still more effective than kerosene for killing the insect enemies in poultry houses. It kills more quickly. But as long as kerosene kills, even if lice or spiders have a chance to wiggle a few minutes longer, or crawl away an inch or two before dying, we have no fault to find with kerosene. It is safe, anyway. With gasoline we have to be very careful so as not to come near it, when being applied, with a light.

More About Green Bone.—Even while usually relying on meat meals for the needed protein in the poultry ration, we find it convenient, if not absolutely necessary, to have a good bone cutter, such as the Mann, at hand all the time. When we can get beef ribs, and other soft bones, for the asking (as we often can), or for a small consideration, the chance is too good to be missed. These soft bones (if meat is adhering to them, all the better) grind up very easily. But we have lots of other stuff that comes acceptable and without the bone cutter would simply be dead waste. Among such things we have the bones of all smaller animals, even chickens, turkeys, geese, etc., as they come from the kitchen, the feet of the pigs killed at the annual butchering, many of the bones of the head, etc., etc. A writer in Am. Agriculturist says about green bones: "Green bones can be obtained from butchers at one-half to one cent per pound, although in many country markets they may be had for the asking. Cutting them is a matter of time and labor, depending wholly upon the number of fowls to be fed, as the invention and use of green bone cutters has greatly simplified the preparation of this food. Poultry folk differ as to method and quantity of feeding green bone. Personally, I prefer to feed it as a separate ration. After becoming accustomed to this food one pound per dozen hens once a day is the allowance. Compared with other foods, I consider green bone the cheapest for the results accruing from its use of any one food, nearly doubling (as it does) the amount of eggs and very materially increasing their fertility, besides producing better plumage and maintaining a more healthful condition of the fowls so fed."

Managing Langshans.—We find the Black Langshan one of the best of winter layers—and always did. But like other fowls, they need care and proper treatment. Don't imagine a Langshan will lay more than any other hen if corn is the only thing given to her, or if she has a place not much better than the open air to stay in nights, or if you neglect to give her what water she wants to drink. Country Gentleman has this to say about the breed: "Langshans, like all the Asiatics, are apt to become overfat if not properly handled. Langshans are among the very best layers when properly handled, but they must be fed for egg production and not to make them fat. If you will feed your Langshans during winter on nothing but wheat and hulled oats with a little cracked corn, and compel them to scratch and dig in litter for all the grain they get, you will find that they will be good egg producers. We cannot give an authentic egg record for Langshans, but we know that they do produce from 120 to 160 eggs per year, according to the way they are handled." And this is just about our estimate of the Langshan. At least we always manage to get the eggs.

Ready.

New price list now ready. If you wish the finest of hardy, healthy, thrifty, Northern grown fruit trees, at very low prices, write Call's Nurseries, Perry, Ohio, for price list. They make a specialty of dealing direct with the farmers, and enjoy the well earned reputation of sending out the finest trees grown. A large number of our leading horticulturists say the finest fruit trees they ever received came from Call's Nurseries. They have a large stock of the Arctic, the hardiest of all peaches and the best of all hardy peaches; also the Graves, the earliest, largest and best of the yellow free-stone early peaches.

SPRAY with EMPIRE the KING or ORCHARD MONARCH PERFECT AGITATORS with Automatic Brush for cleaning strainer. No leather or rubber valves. All styles of Spray Pumps. Book free. "No swindled feeling if you use our pumps." Field Force Pump Co. 11th St. Elmira, N.Y.

In A Barn and many other places on the farm such as the feedroom, dairy barn, horse stable, etc. you will get great satisfaction from a good stationary light. The best you can get is a DIETZ Search Light. It is strong, clear and steady, fully up to electric light for your uses. Perfectly safe and most convenient for using. Write us for lantern book which shows every kind to choose from. Local dealer carries or will send for the one you choose. R. E. DIETZ COMPANY, 85 Laight St., New York. Established 1840.

SALESMEN WANTED. Exclusive specialties; best trees for JUDICIOUS buyers. Experience unnecessary. Cash weekly. Prudential Orchard Co., B7, Shermansville, Pa.

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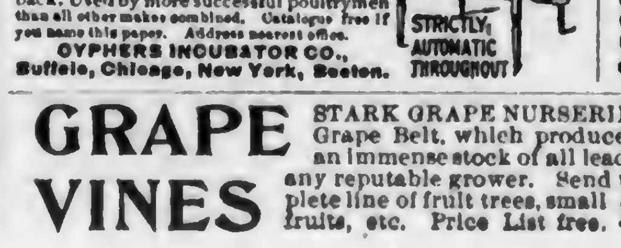
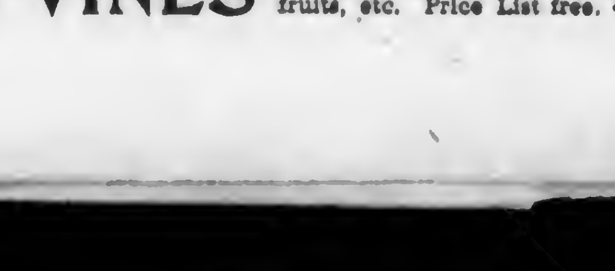


MANN'S LATEST BONE CUTTER GET MORE EGGS fetches eggs all winter. Sent on TEN DAYS' FREE TRIAL. No pay until you prove it cuts easier and faster than any other. Isn't that the fairest offer? Catalogue free. F. W. MANN CO., Box 14, Milford, Mass.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The Cyphers Guarantee is made to you personally and is backed by every dollar we have in the world. It says the Cyphers Incubator will give you better satisfaction, hatching more and healthier chicks, with less oil and attention than any other or your money back. Used by more successful poultrymen than all other makes combined. Catalogue free if you name this paper. Address nearest office. CYPHERS INCUBATOR CO., Buffalo, Chicago, New York, Boston.

THE VALUE OF CHARCOAL.

Few People Know How Useful it is in Preserving Health and Beauty.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

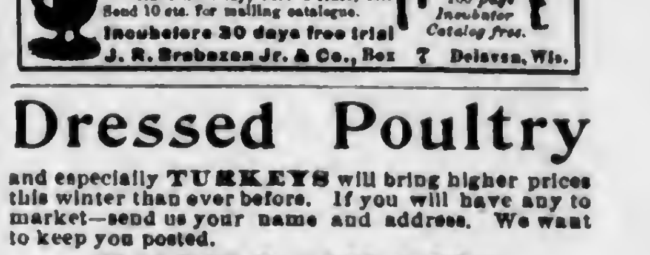
The Incubator Problem is solved in the book issued by the GEO. ERTEL CO., Quincy, Ill. It is free. Write a postal today and get it.

OYSTER SHELLS crushed for poultry fresh from Baltimore factory, in 100 lb. bags, 40 cents each; ½ ton $3.50, or 1 ton $6.50. Circular free. CANFIELD COOP CO., 54 Main St., Bath, N. Y.

CHICKS Hatch out Sound and Strong if you use the PERFECT HATCH SYSTEM. It beats incubators. Over 63,000 in use. B'klet free. F. Grundy, Morrisonville, Ill.

$80 A MONTH SALARY And all expenses to men with rig to introduce our Guaranteed Poultry Remedies. Year's contract. Bank reference furnished. G. R. Bigler Co., X. 378, Springfield, Ill.

FOR SALE. Finely ground Phosphate rock, containing a high percentage of phosphorus, which has been recommended by the Agricultural Experimental Stations of Maryland and Illinois as a fertilizer. Prices and phamplet of information will be sent on application to ROBIN JONES, 14 P Steger Bldg., Nashville, Tenn.



$9,000 Poultry Catalog 40 kinds Turkeys, Geese, Ducks, Chickens, fowls and eggs cheap. 100 grand pictures, 20 house plans. We make hens lay, cure disease, etc. Send 10 cts. for mailing catalogue. Incubators 30 days free trial. J. R. Brabazon Jr. & Co., Box 7 Delavan, Wis. 100 page Incubator Catalog free.

Dressed Poultry and especially TURKEYS will bring higher prices this winter than ever before. If you will have any to market—send us your name and address. We want to keep you posted. WALTER R. LEES & BRO., 330 So. Front Street, Philadelphia, Pa.

$12.80 For 200 Egg INCUBATOR Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day. GEO. H. STAHL, Quincy, Ill.

POULTRY We keep everything in the POULTRY LINE—Fencing, Feed, Incubators, Live Stock, Brooders—anything—it's our business. Call or let us send you our Illustrated Catalogue—it's free for the asking—it's worth having. Excelsior Wire & Poultry Supply Co., Dept. B.O., 26 & 28 Vesey Street, New York City.

GRAPE VINES STARK GRAPE NURSERIES are in the heart of the famous Chautauqua Grape Belt, which produces the finest vines grown in the U. S. We have an immense stock of all leading sorts; quality perfect; prices low as those of any reputable grower. Send us your orders—one vine or a car load. A complete line of fruit trees, small fruits, etc. Price List free. STARK BRO'S PORTLAND, N. Y. Louisiana, Mo.

The Practical Farmer.

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PROF. W. F. MASSEY, Editor.

Philadelphia, December 26, 1903

Crop Growing and Crop Feeding.

By Prof. W. F. Massey. Unlocks the problems of how to grow the largest crops and maintain and increase soil fertility at the same time. Told in simple language, so that the plain every day farmer can understand every word. A copy of Crop Growing and Crop Feeding, cloth bound, postpaid, The Practical Farmer for one year, and The Practical Farmer Almanac for 1904, all for only $1.50. The book in paper binding, The Practical Farmer and the Almanac for only $1.25. The cloth bound book sent free for a block of six yearly subscriptions to The Practical Farmer at 50 cents each, new names and renewals.

EACH subscriber will find a subscription blank in this number of their paper. The Editor joins with the Business Management in the request that each subscriber will consider the blank an urgent invitation to make up at least one Block of Six, using the blank for the names of the subscribers. This will be the last opportunity this year to extend the circulation of The Practical Farmer. Each friend could not make us a better New Year's gift than one or more of these Blocks of Six. The Editor can assure the friends of the paper that he will do his level best to make it better in 1904 than ever before. In this he will have the cordial co-operation of everyone connected with The Practical Farmer, either in an editorial or business capacity. Now let our friends second our efforts, and see to it that every subscription blank which goes out this week is returned with six or more names. A prosperous New Year to every reader of The Practical Farmer is our greeting.

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What Constitutes Success in Farming?

"I maintain that the really successful farmer will not be content simply to maintain his soil's fertility, but will increase it year by year."—W. I. Chamberlain in Ohio Farmer.

The farmer who merely aims to prevent loss of fertility, and who assumes that the only purpose of commercial fertilizers is to produce a crop to sell, will probably come short of his aim, and will find that his soil is decreasing in productiveness. Mr. Chamberlain has laid down the only safe rule to follow, to make the aim the increasing of the productive capacity of the soil through a proper rotation of crops, aided by the liberal use of commercial fertilizers in the right place. The thoughtful farmer will not be satisfied with his present yields, but will continually be studying how to increase them. He will not assume that commercial fertilizers are only stimulants, but will know that if properly used they can be made one of the most efficient means for the increasing of the productiveness of his acres. The man who dribbles 100 to 200 pounds of fertilizer in the hill for corn or cotton, will find that it is in the nature of a stimulant and that his land will be growing poorer, while the man who uses the mineral elements of plant food to increase the growth of the nitrogen collecting legumes will learn the truth of the text, "There is that scattereth and yet increaseth and there is that withholdeth more than is meet and cometh to poverty." Putting a little dose of complete fertilizer in the hill for a sale crop seldom pays except in a little increase of the sale crop, which not only uses all that is applied, but draws further on the natural resources of the soil, and leaves it poorer than before, while a liberal broadcast application of acid phosphate and potash may not cost more than the little application of the complete fertilizer, but will return a big interest in the amount of forage produced for stock and the manure resulting from feeding them, and further, in the nitrogen left in the soil and the humus-making material that holds it. Feed with a liberal hand the crops that feed the cattle and the soil at the same time, and you may rest assured that they will do the rest.

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The Absorbent Power of the Soil.

A Virginia friend, whose communication came to late for the Pool on the barnyard topic, says that in order to keep his barnyard dry he made it with a slight inclination to a piece of cultivable land outside, reasoning that it would not pay to haul all that water in the manure, and that whatever of plant food drained off would go on the land that was to be cultivated, and that would be cheaper than hauling it. But after twenty years he has failed to perceive any appreciable difference in the growth of grass for more than six feet outside the barnyard fence. We have often noticed this absorptive power of a clay soil to retain plant food. An instance in our own experience proved this. We have heretofore given an account of manuring a steep hill from the top and stopping short of the bottom under the impression that the lower part of the hill would get the benefit of the manure spread above, by reason of its washing down hill. But we never saw any effect from the manure three feet from where the spreading stopped. Since that we have never hesitated to spread manure on land and let it lie on the surface to be plowed under later, for we know that whatever leaches out the soil will get and keep for us. We have heard farmers argue that if they hauled out and spread manure in winter it would wash away from them, and these same men were letting the manure accumulate in the barnyard and wastefully exposed as much as it would be on the field, and doing no good where it lay, but would have been doing good on the field, for the soil would have held on to all the rain washed out, which was then held uselessly by the soil of the barnyard. The lesson of all this is to get the manure out as fast as practicable and let the cultivated soil keep it for you instead of the soil under the barnyard. Laboratory experiments have shown that a clay soil will rob a solution of all its plant food except the nitrates, and the nitrates will leach away as fast in the barnyard as in the field. Manure is not a thing to be hoarded any more than cash is; both should be put, as soon as possible, where they will be making dividends.

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The Government Seed Shop.

Year after year the free seed distribution grows until finally it would seem that the United States Government will have a monopoly of the seed business in this country. A law made in the first instance for the introduction of seeds of plants that may be new to the country in order that they might be tested and valuable crops introduced, has been converted into an electioneering scheme by Congressmen. In spite of all the opposition of the Secretaries the evil grows instead of diminishing. Secretary Wilson, in his recent report, tells some plain truths in regard to it, and advises that the law be restricted to its original purpose. But is there any need of a law that has been found so easy to pervert into a fraud on the country? One of our contemporaries, we do not just remember which, suggests that when the law was framed there might have been a use for the Government introducing these things, but now, when in all civilized countries the energetic seedsmen are ever on the lookout for valuable novelties, and the commercial connections of seedsmen all over the world are such that no plant of real economic value anywhere is likely to escape the attention of the trade explorers, the trade can be depended upon to find these things and to introduce them, and there is not the slightest reason for the Government giving away garden seeds that can be bought for a trifle by mail all over the land, than there is for their distributing other goods that some people would like to have given them. If the Government is to keep up the seed gift business why not extend it to a general paternal pauperization of the people in every line of goods. Just at this season why should not Congress go into the Christmas gift business for the whole people? It would be as sensible to ask for contracts from the toy shops and the bric-a-brac dealers and to let Congressmen send out Christmas packages free through the mails as to buy up the seed stocks of the country and to distribute packages by the million all over the land, thousands of which are thrown in the fire by gardeners who know what they want, and who will not trust the Department seeds to make their crops. If the Government is to keep explorers traversing the earth and seeking seeds and plants of all sorts, would it not be more sensible to place the collections in the hands of the Experiment Stations in all the States so that their value may be tested and no loss incurred by private planters who are depending on the seeds to make something to eat from their gardens and farms? The great bulk of the new introductions fail to be of value over what we already have. A few years ago we received a number of varieties of okra, for instance, from the Department, which had been collected in Algeria. Not one of these proved equal to the White Velvet, which has been grown here for years, and the introduction was entirely useless. And the same may be said of many other things introduced simply because the Government explorers find them on the markets of foreign lands and are not familiar enough with the particular article to judge if it will be a valuable addition or not. If the trade was depended upon these things would not be brought in unless it had been proven that they had unusual value. The whole seed distribution has grown into a gigantic fraud on the seed trade, and if it grows as it has in the past, the time is not far distant when there will be but one seed house in this country, and that in Washington, run by the money of all the people for the questionable benefit of a few pets of the Congressmen. The seedsmen of foreign lands will benefit by it, perhaps, while the business in this country will be destroyed by the very Government that preaches protection to American industries. Now let us have a Government toy shop so that Congressmen can make votes by sending the children of all their constituents their Christmas toys.

Almanac Notice.—The Practical Farmer Almanac for 1904 will be ready for mailing between Jan. 5th and 10th. All our friends entitled to a copy of it will please bear this in mind. Each will receive their copy after the tenth as soon as the mails can take it.

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The Cream of the Bulletins.

The monthly bulletin of the North Carolina State Board of Agriculture, Raleigh, N. C. September Issue. Improvement of Corn by Seed Selection. By C. B. Williams.

The author begins with the statement that 47 per cent. of the cultivated land in North Carolina is devoted to corn, while the average yield for the State is less than 13 bushels of shelled corn per acre. The North Carolina Department of Agriculture is making experiments on the different soils of the State, having test farms in the coastal plain and in the red clay upland country. Last year at the farm in Edgecombe Co., Cocke's Prolific corn, from selected seed, made 35.2 bushels per acre, while another variety produced but 20.5 bushels on the same soil and with same cultivation, the only difference being the seed used. This difference of 14.7 bushels per acre would make, at 50 cents per bushel, a clear gain of $7.35 per acre for the first variety. The farmers are advised not to get seed corn from a different climate. This was illustrated on the same Edgecombe farm last year with the Leaming corn brought from Illinois for trial. This variety had proved at the Illinois Station to be one of the best varieties grown in that State. But at the Edgecombe farm it gave the smallest yield of 13 varieties, mainly because not acclimated. Farmers are advised when buying seed corn to have it shipped in the ear. If dealing with a first-class seedsman we would not advise this, since it involves a great deal more freight. One method of selection is to go into the field just before harvesting the crop and select seed from the best stalks in the field, and then select several times as many ears as needed, so that a further selection can be made when the ears are husked. This is a little better than merely selecting the best ears in the crib, a practice that is responsible for the shape in which corn is found in the South today, with ears, on good land, almost or quite out of reach and a very short top above the ears, which is usually a solitary ear. Planting an isolated patch of corn for seed is urged as the best plan. Then when this corn is showing tassels to go through and remove before ripening every tassel from a barren stalk, so that they will not affect with their barrenness the ears around them. This is one of the most important suggestions in the bulletin. It would be still better if none but typical stalks, or those that come nearest the ideal of a perfect corn plant, should be allowed to bear ripe tassels. In the past summer the author found one field in which there were 40 to 50 per cent. of barren stalks, and has seldom found any where there were less than 10 per cent. of barren plants. The selection of the big ear has resulted in tall, single-eared stalks in the South, and any system of breeding that is to be effective must take the whole plant into consideration. The long-legged plants require wide planting, and wide planting and single-eared corn are the cause of such low averages in the South. The stature of the corn must be brought to such a shape that it can be planted closer. The breeder of Cocke's Prolific had this in view, evidently, since it is a Southern bred corn, but as compact a plant as any corn of the middle corn belt. Stalks bearing two or more ears should always be selected for seed. In breeding the plant down to a reasonable stature we would always select the lower ear of a twin-eared stalk, since this has a tendency to get closer to the ground and to make an ear above it. When the ideal plant is obtained it will be in order to select the typical ear, but the selection of typical ears only will never increase the corn crop until the corn grown in the South is of such a character that it can be planted closer. Single stalks six feet apart each way and bearing but one ear on the stalk, will explain the small average of North Carolina. Corn planted in that way on an Illinois prairie would make no better crop, while the dwarfish Cocke's Prolific planted close, made in North Carolina 88 bushels of corn per acre. The bulletin has very good counsel in regard to what constitutes a good seed ear, which is all right, after you have gotten the ideal plant. We must have a plant bearing more than one ear and these not more than half way between the ground and the tassel. Details of selection of ear and grains of proper form are given.

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American Agriculturist, N. Y. City	2.00	1.65
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Gleanings in Bee Culture (semi-mo.)	2.00	1.40
Green's Fruit Grower, Rochester, N.Y.	1.50	1.10
Harper's Magazine, New York City	5.00	4.10
Ladies' World, New York City	1.40	1.15
McClure's Magazine, New York City	2.00	1.70
Munsey's Magazine, New York City	2.00	1.75
Poultry Success	1.50	1.15
Success, New York City	2.00	1.50
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CONTENTS

AGRICULTURAL.—How to Run a Northern Dairy Farm Without Cows.—Health Hints.—You Need not Have Colds. 401
Growing Corn. 402
QUERIES.—Feeding Value of Bran and Corn. 402
Sundry Queries.—Fertilizers and Manure.—Meadows and Corn Planting. 403
LIVE STOCK AND DAIRY.—A Cheap Feeding Barn for Cattle. 404
VETERINARY.—Indigestion. 404
Cholera. — Colic. — Rheumatism.—Blackleg. — Strangles. — Paralysis.—Castration.—Broken Wind. 405
GARDEN.—Talks on Timely Topics.—Supposed Freaks of Grafting, etc.—Current Comments.—The New Onion Culture.—Notes from a Carolina Garden. 406
HORTICULTURAL.—Propagating Mistletoe.—Covering Hardy Flowers.—[illegible]cultural Queries. — Planting Peach Trees.—Horticultural Notes. 407
POULTRY. — Seasonable Suggestions.—Winter Pasture.—Gasoline for Lice.—More About Green Bone.—Managing Langshans.—Pointed Poultry Paragraphs. 407
[illegible]RIAL.—What Constitutes Success in Farming?—The Absorbent Power of the Soil.—The Government Seed Shop. 408
[illegible]F THE BULLETINS. 408
[illegible]L. 409
[illegible]LE. — Editorial Chat.— that mammy's Great Scheme.— 410
Flowers.—Inexcusable the Kitchen.—The Mental and Civil Things That Test. 411
POOL.—Topic No. Practical Farmer You in 1903? 412
[illegible]NNEX. — The cutting Berry Harness Rack.—Box Stoves.— Indis[illegible]
OUR EXPERIENCE
FARM IMPLEMENT [illegible]CE. 413
414
POSTAL CARD CORRESPONDENCE

COMMERCIAL

PHILADELPHIA MARKET REVIEW.

December 19, 1903.

The market for wheat was quiet but prices ruled steady under light offerings. There was a fair inquiry for corn for local consumption. Oats were steady under moderate offerings, but trade was quiet. Supplies of live fowls and chickens were liberal and offerings were mostly of medium and poor stock, which was dull and irregular. Strictly choice fat stock exceeded quotations. Live turkeys, ducks and geese were in fair demand and firm under small supplies. Dressed fowls and chickens were in fair demand for choice lots, which were only in moderate supply. Unattractive stock was in large supply and prices were correspondingly low. Turkeys and ducks were in light receipt and prices held up. Geese were quiet and steady. Solid packed creamery butter was lower, owing to the continued indifference of buyers and to the decline in other markets. The demand was chiefly for storage butter, and this made it difficult to move current makes at anything like satisfactory prices. Factory goods were in ample supply and dull. Strictly fancy prints were scarce and prices were well maintained, while medium grades were plentiful and dull. Fresh eggs are arriving in limited quantities only and prices are firm at a considerable advance over last week's quotations. Refrigerator eggs were also in good demand and firm under light offerings. Cheese continues weak under liberal offerings and light demand. Choice apples are in small supply and firm, while fancy fruit commands an advance over the quotations. Most of the arrivals are of medium and common grades, which are dull. The supply of choice cranberries is small and prices are firm, while ordinary Jersey fruit is dull. Florida oranges are coming in slowly and prices are firm. The cold weather has cut down the supply of vegetables, and desirable lots of all descriptions were light and prices were well maintained. Demand for dried beans was slow and prices were a shade lower under liberal offerings. Cotton was strong under higher cables and good speculative buying in New Orleans and New York; the demand from spinners was light. Feed was in small supply and firm. The market for hay was quiet and prices favored buyers. Rye straw in small supply and steady.

WHEAT.—			
No. 2, red, spot and Dec.	86½	@	87
No. 2, Penna and Del.	87½	@	88
No. 3, red	81½	@	82
CORN.—			
No. 2, mixed	48	@	48½
No. 2, yellow, old	54	@	54½
No. 2, yellow, new	47	@	50
No. 3	47		
OATS.—			
No. 2, white natural	41½	@	42
No. 2, white clipped	42½	@	43
LIVE POULTRY.—			
Fowls, hens, per lb.	10	@	11
Roosters, per lb.	7	@	8
Spring chickens, per lb.	10	@	11
Ducks, per lb.	14		
Geese, per lb.	13	@	14
Turkeys, per lb.	16	@	17
DRESSED POULTRY.— FRESH KILLED.			
Fowls, choice, per lb.	12½		
Chickens, nearby, per lb.	13	@	14
Western, d. p., fancy, lb.	12	@	14
Spring turkeys, fancy, lb.	19	@	20
West. spring turkeys, per lb.	15	@	18
West. spring ducks, per lb.	13	@	15
West. spring geese, per lb.	11	@	13
BUTTER.—			
West. creamery 1sts to extra	22	@	24½
Ladle packed	14	@	16
Prints, nearby, 1sts to extra	24	@	27
Prints, Western	21	@	26
Imitation creamery	17	@	20
EGGS.— QUOTATIONS—M, mark; L, loss off.			
Nearby 1sts, ret'bl crates, M	36		
Western 1sts, free cases. L	35	@	36
So. West., 1sts, free cases, L	34	@	35
So. choice, free cases. L	33	@	34
Refrigerator, firsts M	28	@	29
Recrated eggs 1@2c. above wholesale prices.			
CHEESE.—			
N. Y., f. c.—			
Choice and fancy	11½	@	11¾
Fair to good	10¾	@	11¼
State, part skims, prime	8½	@	10
Domestic Swiss, No. 1	13		
GREEN FRUITS.—			
Oranges, Fla., bright, box	2.50	@	3.00
Oranges, Fla., russets, box	2.25	@	2.75
Grape fruit, per box	4.00	@	5.00
Cranberries—			
Cape Cod, large late, bbl.	7.00	@	8.50
Cape Cod, early Bl., crate	1.75	@	2.00
Jersey, per crate	1.50	@	2.00
APPLES.—			
N. Y. Snow, per bbl.	2.75	@	3.25
Kings, per bbl.	3.00	@	3.50
Ben Davis, per bbl.	2.00	@	2.50
Greenings, per bbl.	2.00	@	2.50
Baldwins, per bbl.	2.00	@	2.50
20-ounce Pippin, per bbl.	2.00	@	2.50
POTATOES.—			
White, Pa., choice, per bu.	78	@	80
White, N. Y., choice, per bu.	75	@	78
Fair to good	65	@	70
Sweets, Jersey, prime bas.	30	@	50
do Jersey, 2ds, per basket	12	@	15
VEGETABLES.—			
Onions, Ohio Globe per bu.	75	@	80
Onions, N. Y., per bu.	50	@	65
Cabbage, domestic, per ton	20.00	@	28.00
Cauliflower, L. I., per bbl.	2.75	@	3.00
Cucumbers, Fla., per bu.	2.50	@	3.50
Eggplants, Fla., ½-bbl. crate	2.00	@	2.50
String beans, 1-3-bbl. bas.	5.00	@	8.00
Tomatoes, Fla., per case	2.00	@	3.00
Lettuce, Fla., 1-3-bbl. bas.	1.25	@	3.00
Peas, Fla., per 1-3-bbl. bas.	2.50	@	4.50
BEANS AND PEAS.—			
Beans, mar., H. P., 1903, bu.	2.40	@	2.65
do mediums, H. P., 1903.	2.05		
Pea beans, H. P., 1903, bu.	1.90	@	2.05
Imported pea beans, per bu.	1.85		
COTTON.—			
Cotton, per 100 lbs.	12.70		

FEED.—			
Bran, bulk, winter, per ton	18.75	@	19.25
Bran, sacked spring	18.75	@	19.25
HAY AND STRAW.—			
Timothy, No. 1, large	15.50		
Clover	11.00	@	12.50
Rye straw	19.50	@	21.00
Oat straw	8.50	@	10.00
Wheat straw	9.50	@	11.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.			
Best steers	5	@	5¼
Good steers	4½	@	4⅞
Medium steers	4¼	@	4½
Common steers	3½	@	4
Veal calves steady for best grades.			
Extra calves	8	@	8¾
Fair to good	6	@	7½
Poor and common	4	@	5½
Grassers	3	@	4
Hogs higher.			
Fat hogs, Pa., Del. & Md.	5	@	6¼
Fat hogs, Western	6½	@	6¾
Sheep and lambs higher.			
Sheep, extra	4	@	4½
Sheep, good	3½	@	3¾
Sheep, medium	3	@	3½
Sheep, common	1¾	@	2½
Lambs	4	@	6¼

◆

New York, Dec. 19, 1903.

WHEAT.—			
No. 2, red	90½	@	91⅝
No. 1, Northern Duluth	93⅜		
CORN.—			
No. 2, yellow, old	55		
No. 2, white, old	53		
No. 2, mixed, old	52½	@	53
RYE.—			
No. 2, Duluth	56	@	58
No. 2, Western	63¾		
BARLEY.—			
Feeding	39		
Choice malting	58	@	60
Medium malting	51	@	54½
OATS.—			
No. 2, white	42½		
Standard white	42		
No. 2, mixed	41		
HAY AND STRAW.—			
Timothy, new, per cwt.	87½		
Timothy, No. 1	82½	@	85
Clover	52½	@	57½
Straw, long rye, per cwt.	95	@	1.20
HOPS.—			
New York State, 1903, lb.	25	@	33
Pacific Coast, 1903, per lb.	20	@	28
German, 1903, per lb.	55	@	65
BUTTER.—			
Extra creamery	24		
West. extra factory	15		
State dairy	15	@	21
Packing stock	12½	@	14
Imitation	15	@	19
CHEESE.—			
State, f. c., Sept., small, f'cy	12		
Sept., good to prime	11	@	11½
Sept., large colored, fancy	12		
Light skims	7	@	8¼
Full skims	1½	@	2
EGGS.— QUOTATIONS AT MARK.			
Nearby f'cy, selected white	42	@	45
State & Pa., fancy	36		
State & Pa., seconds	30	@	34
Western extras	36		
Refrigerator	23	@	28
LIVE POULTRY.—			
Chickens, per lb.	10	@	10½
Fowls, per lb.	9	@	11½
Roosters, per lb.	7½		
Turkeys, per lb.	13	@	14
Ducks, West., per pair	80	@	90
Geese, West., per pair	1.50	@	1.62
DRESSED POULTRY.—			
Turkeys, fancy, d. p., lb.	20	@	22
Scalded, fancy, per lb.	19½	@	20
Old, mixed, per lb.	17		
Capons—			
Phila., 7 to 8 lbs. each	22	@	23
Phila., 6 to 7 lbs. each	18	@	21
Ohio & Ind., 7 to 8 lbs.	18	@	19
Ohio & Ind., 6 to 7 lbs.	15	@	17
Broilers—			
Phila., fancy, large, lb.	21	@	23
Western, d. p., per lb.	16		
Fowls—			
Ohio & Mich., scalded, lb.	12		
West., d. p., av. best, lb.	12		
Chickens, Phila., fancy, lb.	17	@	
State and Pa., fancy, lb.	13	@	
State and Pa., poor, lb.	10	@	
Spring ducks, nearby, lb.	16	@	
Western, per lb.	14	@	
Inferior, per lb.	10	@	
Spring geese, Eastern, lb.	16	@	
Squabs, per doz.	1.62	@	3.0
APPLES AND PEARS.—			
Apples—			
Ben Davis, per bbl.	1.50	@	2.25
Spitzenberg, per bbl.	2.00	@	4.00
King, per bbl.	2.50	@	3.5
Greening, per bbl.	1.50	@	3.0
Tallman sweet, per bbl.	1.50	@	2.06
York Imperial, per bbl.	2.00	@	2.75
Pears—			
Kiefer, per bbl.	1.00	@	2.50
Miscellaneous, per bbl.	00	@	1.25
GREEN FRUIT.—			
Grapes—			
N. Y., Niagara, crate	2.00	@	2.50
N. Y., Concord, 4-lb. bas.	12	@	18
N. Y., Catawba, 4-lb. bas.	14	@	16
Wine grapes, black, ton	55.00	@	65.00
Cranberries—			
Cape Cod, bbl.	6.00	@	8.50
Cape Cod, N. Y. crate	1.75	@	2.00
New Jersey, per bbl.	5.50	@	6.00
New Jersey, per crate	1.40	@	1.80
Oranges, Fla., bright, box	2.50	@	3.25
Oranges, Fla., russet, box	2.00	@	2.75
Grape fruit, Fla., per box	3.75	@	5.50
Strawberries, Fla., per qt.	50	@	75
Strawberries, Cal., per pt.	30	@	50
POTATOES.—			
L. I., per bbl.	2.12	@	2.37
Jersey, per bbl.	2.00	@	2.25
Maine, per bag	2.10	@	2.25
So. 2nd crop, per bbl.	1.50	@	2.00
Sweet potatoes, Jer., per bbl.	1.50	@	3.50
Southern, per bbl.	50	@	1.00
VEGETABLES.—			
Carrots, per bbl.	1.00	@	1.25
Cabbage, domestic, per ton	20.00	@	30.00
Cabbage, Danish, per ton	30.00	@	40.00
Tomatoes, Cal., flat cases	1.00	@	2.25
String beans, Fla., per bas.	3.00	@	9.00
Squash, Hubbard, per bbl.	1.00	@	1.25
Cauliflower, Cal., per case	2.50	@	3.50
Celery, per doz.	10	@	50
Eggplants, per box	3.00	@	7.00
Lettuce, New Orleans, bbl.	6.00	@	8.0
Lettuce, Norfolk, per bas.	50	@	
Onions, white, per bbl.	2.00	@	
Red, per 150 lbs.	1.50	@	2.2
Yellow, per 150 lbs.	1.50	@	2.2
Peas, Florida, per basket	3.00	@	7.00
Spinach, per bbl.	3.00	@	4.00
Peppers, Fla., per carrier	2.50	@	3.50
Kale, Norfolk, per bbl.	75		
Pumpkins, per bbl.	1.00	@	1.50
Parsnips, per bbl.	1.00	@	1.25
Turnips, per bbl.	75	@	1.12
BEANS AND PEAS.—			
Beans—			
Marrow, 1903, choice, bu.	2.60	@	2.65
Medium, 1903, choice, bu.	2.10		
Pea, 1903, choice, per bu.	2.05		
Red kidney, 1903, per bu.	2.65	@	2.70
Lima, California	2.25	@	2.27
Green Peas—			
Scotch, 1903, bags, per bu.	1.12½		
COTTON.—			
Cotton, spot, per 100 lbs.	12.70		

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Now boys and girls be sure and do not forget those Blocks of Six. The Managament offers a number of good premiums for them. We should think the Fountain Pen would be especially useful to boys and girls. We suggest that at least one of the young folks in The Practical Farmer family go out among the neighbors and raise at least one Block. The subscription price is only 50 cents per year when taken in these Blocks, and we think the good things in The Practical Farmer during 1904 will repay a hundred times this small expenditure. Now is just the time to make up a Block, too, as the farmers are now making up their reading for the new year. Tell them all about The Practical Farmer, that they can get it at just half price in Blocks of Six, and you will do the thing in no time.

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We hope that 1904 will find every housewife who reads the Home Circle provided with all the kitchen conveniences and helps that her husband can afford. No better way of starting the new year than by seeing that the good wife's labors are lightened as much as your circumstances will permit. The wife should share equally with the husband in the labor-saving utensils which make life on the farm more attractive. What is sauce for the gander is sauce for the goose, to turn an old saw round-about. Among these utensils we place a good washing machine in the front rank. There are degrees of excellence among them, but at the head stands the "1900 Washer," which we have mentioned before. It really makes almost play of washing, so that we who have so long dreaded the weekly washing experiences have come to look upon them with comparative equanimity. Those who use these washers are enthusiastic in their praise of them, and would not for the world do without them. The strongest thing that can be said for them is that the manufacturers send them on trial without costing a cent. If the washer suits you, pay the price; if it don't, you send it back. And you have 30 days in which to try it, too. We advise our friends to write to the 1900 Washer Co., 28 E State St., Binghamton, N. Y., for catalogue and particulars.

Prize Article.

Rights.

TILEA E. HUFF.

I rise to speak on the subject of "rights"—one I hear very little of—parents' rights. Now, we all know something of what they are, but—patience, please; I will try to give you a new thought, perhaps. Have you ever thought of a time when your children will be in homes of their own? What have you done against that time? Have you sufficient for your needs in old age? Or are you looking forward to a happy life with one of those you have spent your best years, and perhaps all your means to raise? It is a pleasant time to look forward to, a life with a dear child; to being loved and cared for. We have lived and builded our homes after our own ideas; our children will live their lives in their own way, perhaps not at all like ours. Will we be satisfied with them, and contented in their home and in thinking that there is no other place for us? Look about you and tell me if you can find a parent who is perfectly content to live thus.

Now parents have a right to a home of their own, even though it may be small, where they can do just as they please. Father, mother, keep your home in your own hands. Selfish? Yes, if you please! "A selfish parent makes an unselfish child." Let us give them an education, a trade, also, that they may be independent, but let us not forget they will grow up to be men and women, and have the same ideas other people have. They will have a leaning toward those who have property. If the money is on our side they will pay us more attention. We all like to go where everything is pleasant and the people well-to-do. If it is necessary to ask aid from children, why not require a small amount from each one, rather than lay the burden of support on one?

My one hope is that I may be independent of my children, though they love me, I know. I never want them to feel even for an instant that I am a care or burden. I have given this subject much thought, though I have never written on it before. Think it over.

Georgia.

Jimmy's Great Scheme.

MRS. A. J. S.

"Jimmy the cat" he was called, because he was such a slick worker, never using saws or skeleton keys, but walking into a house in broad daylight under some bold and ingenious pretense. One morning Jimmy read in a newspaper that a certain Mr. Archibald, a very wealthy man, was endeavoring to get possession of certain valuable property and by advice of counsel was refusing an order of the court to produce certain papers connected with the case.

It occurred to Jimmy to go to Mr. Archibald's house in the guise of a constable, and make a search, ostensibly for the papers, really for plunder. It did not occur to him that such papers would likely be in the hands of Mr. Archibald's attorney; indeed he did not care where they were. After executing a neat piece of penmanship in the shape of a search warrant, and manufacturing a constable's badge, he went to the house, rang the bell and was admitted. There were no men in the house at the time, and Miss Daisy Archibald, a young girl of seventeen, answered the summons.

"I'm very sorry to trouble you, miss," said Jimmy, "but I've a warrant to search the house for certain papers in the case of Fairleigh versus Archibald."

"If you'll wait a minute I'll telephone my father, who will come home immediately."

Jimmy preferred to make the search without the presence of the head of the house, but he didn't wish to appear to force matters.

"I would be glad to accommodate you, miss, but the court is waiting. The judge ordered me to make the search and get back before 2 o'clock, when it meets after noon recess."

The young lady pondered. Finally she said reluctantly: "We have an invalid in the house and don't want any disturbance, so I suppose I may as well give you the papers. If you will wait a minute I'll get them."

This unexpected proposition was rather startling to Jimmy, but he was equal to the occasion. "I'll have to go with you, miss. If you should get away with the papers, I'd be blamed by the court."

"Certainly," said the girl. "I can understand that. You would be very remiss to take such a risk. I don't know exactly where father keeps them, but we can search together." Jimmy assented to this, leaving it to be decided as he proceeded what action he should take. The young lady led him upstairs to an unoccupied bed room, where she began a protracted hunt. Jimmy, to show his delicacy, sat down on a chair and left the matter entirely to her. He saw her take a box of jewels from a drawer and put it back again. When she was about to leave the room for another apartment, Jimmy said:

"I'm sure such a pretty young lady couldn't play a game on a poor constable who is only doing his duty. Just you go on searching and I'll wait here."

"That's very considerate of you," she said, showing two dimples and two rows of white teeth in a smile. Jimmy was pleased at the success of his artifice. As soon as Miss Archibald departed he stepped to the bureau, took out the jewel box, saw that it contained articles of value and slipped it into his pocket. "The dear little fool!" he said. "I never met anyone so soft, but, after all, she's only a child."

Presently he heard Miss Archibald call: "Mr. Constable, please come here. I think the papers are in the silver vault. I know the combination, and I'll let you in."

"What luck!" remarked Jimmy to himself. "Things are working beautiful!"

"I'll tell you the combination, and you turn the knob," said Daisy when he came up. The numbers were given, the bolts turned, and Jimmy found himself at the open entrance of a vault large enough to admit him standing upright.

"Please go and get me a light," he said, to make an excuse to send Daisy away.

"One moment," she replied. "Look me in the face. Yes, you are honest. I know it. You see, our most valuable jewels are in there, and I wouldn't like to let anyone in unless I had perfect confidence in him. I'll bring you the light in a minute."

When she returned Jimmy was in the vault and had just slipped a bag of jewels in his pocket. In fact, he had finished the job and was about to come out, but for appearances he took the candle from Daisy and began to pull open certain drawers containing silverware. Suddenly he heard a clang behind him and bolts shoot into socket. He was a prisoner. A few minutes later, Mr. Archibald, in his office, was called to the telephone.

"Papa, dear," came the soft voice of his daughter, "a man came here to search for some papers. I locked him in the silver vault."

"You locked a man in—"

"Yes; come home at once. I'm afraid he'll suffocate."

Mr. Archibald made hasty inquiries by telephone and learned that no search had been ordered. Then, taking two policemen with him, he went home. The vault was opened and Jimmy, half dead, was dragged out.

"Ah, ah!" said one of the policemen. "Caught at last, eh?"

"I don't mind the catchin'," said Jimmy ruefully, "so much as being done by a pinafore. The child's slick enough to make a bloomin' murderer snivel!"

Jimmy got ten years, and Daisy got a gold watch studded with diamonds.

Indiana.

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Our Shut-ins.

Mrs. C. H. Sleight, South Glens Falls, N. Y., writes: Dear Mrs. Melville: It is very nearly a year since I wrote you first, and as I look back over those long months there seems nothing in them but sorrow and suffering, yet down deep in my heart I have much to be thankful for. Last spring there seemed no hope for my sister to live more than a few weeks at the longest. My son, living at home, cut his foot, severing two toes and cutting the third very badly; he was in the woods alone, but managed to get on his horse and come home. Had to be taken to the hospital. At the same time a married son, living near us, was so ill with typhoid pneumonia that we thought he could not live, and I was sick in bed; but the blow that crushed out all our happiness and made the world look dark, came the Fourth of July, when God took our little grandson. Oh, how lonely our hearts are without him! But this is not scattering sunshine, and the world has enough clouds; I do not wish to make more. Now for a little sunshine, all, my dear sister, that I am able to make. Just a few of the things that I have to be thankful for, just a few, for God's blessings are too numerous to mention. First, that He spared those that were not ready to die, and took the little sunbeam that was all ready to shine in His Kingdom. Budded on earth to bloom in Heaven, and now those beautiful hands are beckoning us to come. Thankful He has given us time to prepare to go to our darling. Thankful my sister is going to live, is gaining now, but cannot walk yet. Thankful that I am in my wheel chair and not in bed, and that I have been able to sit out doors through all the beautiful autumn days, and thankful, if I must suffer on until I cross the River, that God has said "My grace is sufficient for you." My trust is in Him. "All the way my Saviour leads me." Last, but not least, thankful for all the dear friends whom I have found through the columns of The Practical Farmer. My heart is filled with thanks to them for all they have done to cheer me in my loneliness. One young lady from New Alexandria, Pa., came and staid with me three weeks, and I hope more are coming. Right here let me ask how many of the sisters will hold up their hands for a Christmas letter party for me? Tell me where and how you spent the day; how you enjoyed yourself; what you gave and what you received. Remember this is all the Xmas I will have this year; there will be no merrymaking among us with that little grave out under the snow. Tell me all about yourselves. How nice it will be; almost like being with you, and I always did enjoy the Christmas tree and festivities. I can almost smell the evergreens now, and feel the pleasure of hiding presents. Such mystery as those days were filled with. Come, sisters, I shall look for the largest crowd that I ever entertained at Xmas, but will look to you for the entertaining this time. Wishing you all a Merry Christmas and Happy New Year, I will close for fear I will not be welcome again.

[We extend our heartfelt sympathy to this sister and her family in their great sorrow, if indeed we can call the changing of a mortal into an immortal; the going from a world of sin, pain and grief to one of endless and indescribable bliss, a sorrow. But even this knowledge cannot silence the terrible lonely heart hunger. We do, however, regret the mistake you are making in not having a "Christmas" at your home. Better far to meet for a little dinner, give simple gifts in memory of Him who gave so much to you, cry and laugh together and be as brave as possible. Your sorrow is a common one; why not heroically cheer each other? This may be the last Christmas for some of the rest of you; better make it as bright as possible. That "little grave under the snow" does not contain your darling; only his cast-off garment; he is having the gladdest, merriest Christmas he ever knew or ever could know. We trust many of the Home Circle will respond and be at the Xmas party, though we will set the date of it for New Years Day, or, in fact, if we arrive any time during the first week of the year we shall expect a welcome. We extend to you now the compliments of the season.—ED.]

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Among the Flowers.

Mrs. Mina Boysen, Glenwood, Ia., writes: Sisters, don't let the cold, dreary winter slip by without having some flowers to brighten your home. For those so fortunately situated as to have a warm house, a bay, or at least a sunny window, it is easy to take care of them, but if we have only an east, north or west window, the task is greater. We do like to have a few flowers. Here, bulbs for one thing. They can stand a little cold, and even a freeze. If you have not already planted hyacinths and bulbs of the kind that require six to eight weeks to make roots, it is not too late now. They will come into bloom in February or March. But for the quickest and most satisfactory returns the oxalis heads the list, especially the buttercup; I mean in foliage and flowers. Of course, we have the narcissus, but the leaves are not as pretty. There are two more that I value highly, the Roman hyacinth and the tretella; but how to protect our dear little friends when the winter sets in with all its force, when, in the morning the bread is like hardtack and the water pail one solid block of ice, is the question. A box of suitable size to hold the plants and pasted over with two thicknesses of newspaper inside, and outside with wallpaper, is the answer. On the coldest nights place a lighted lantern, with a wire screen around it, and if necessary, pinning a quilt over and around the box. By this method we have kept our plants through the coldest of winters, and our lives have been brightened and made happier by the aid of a few flowers.

Inexcusable Ignorance.

J. F. WILLIAMS.

It is remarkable how little people know of the Bible. Even church members are, as a rule, almost entirely ignorant of the plainest truths it contains. We leave entirely too much to the clergy. We are all kings and priests now, i. e., there are no religious orders as under the Old Testament rule, so, to put it, commonly, "every tub stands on its own bottom." What a sad thought it is that so few are interested in making for themselves a home beyond this vale of tears. [illegible] recently heard a preacher declare in the [illegible] that many people will go to hell for [illegible]g to get an earthly home for them[illegible] those dependent upon them. The [illegible] writers generally are work[illegible] line and will probably all say [illegible]tatement; but it is not neces[illegible] striving to secure an earthly [illegible]rely about the heavenly [illegible]nly a bubble compared [illegible] eternity. Ignorance [illegible] the end of the race [illegible] had no chance to [illegible] a Bible and an [illegible] proper use of [illegible] for us to [illegible] where the [illegible] New Testament every Sunday, and meets three nights out of every month to study the Old Testament. In this way the few of us who do the work are learning so much. How dreadful to think of plunging into Eternity entirely unprepared, simply because we neglected to read God's warnings! It is not our province to champion any denomination, sect, dogma or doxy; better let all these alone and come directly to the Book yourself.

Illinois.

In the Kitchen

B. M. C. writes and tells how to cook green peas when a little old or hard, and you wish them to be tender: Take a teaspoonful of soda in some water to dissolve it (hot water preferred); let them boil a few minutes and then pour that water off and then cook them as usual and you will find them all right. My mother always said that green peas cooked with soda in the water were far more healthful, and would set better on the average stomach than without it.

When beef is first killed it is apt to be tough, and needs to hang twenty-four hours to be tender. In hot weather it is apt to get sour and soon spoils. The average cook will soon throw it away, but the meat can be saved by using soda in the same manner as in cooking peas. It can be made sweet and tender and perfectly healthful. Let our lady friends give these facts a thorough trial and they will approve them and find them a success.

New York.

The Harbinger of Mental and Civil Progress.

MRS. E. V. HARTMAN.

We are all launched upon the voyage of life destitute of knowledge, but not without the faculties for its acquisition. Under favorable circumstances, such as are helpful to the widest mental attainments, a stimulus is imparted, which, enabling us to recognize some practical truths, encourage the entrance into more abstruse fields of science, philosophy and religion. But under discouraging circumstances, some in every age have risen superior to their fellows, have accomplished noble purposes and left enduring evidences of their power, and yet were not honored because the stupidity of the age could not appreciate the service. In the moral as in the physical world, every night brightens into a new day. For four thousand years the best and purest minds sought to throw off the darkness of the times. Why it remained unchanged so long cannot be solved as a difficulty, but may be neutralized as an objection. If it be an objection against Him who doeth all things well, that forty centuries passed before he revealed a system of truth that should be initiatory to the most wonderful progress, it is also an objection against the providential government of the same being, that He should allow twenty centuries to elapse before were given some of the most useful and benificent discoveries that ever blessed the world. To elevate mankind all kinds of laws were given. The genius of accomplished men was exhausted, but human corruption remained the same. Art was not enough. Greece, after twenty centuries, is still the art teacher of the world, but did that save her? Twenty-two centuries ago the ancient nations were in such a state of internal antagonism that an inhabitant of one country could not pass over or tarry in another. Alexander and the Cæsars changed this and consolidated the then whole civilized world. This was the result of the movements of forty centuries. A better dispensation was introduced whose author made his appearance in the fulness of time, when the world was best fitted to receive it.

Glancing over the fruits of Christianity, none can deny that it is the harbinger of mental and civil progress. It is by no means an accident but in the very nature of things, that wealth, progress and civilization go hand in hand with a pure Christianity. We have only to give the mind a truth to expound it; it will view it on all sides, new ideas will be awakened and it becomes enlarged and strengthened. Now by this same law lay before the inquiring mind the thought of God, immortality, sin and personal responsibility, and it will be awakened and stimulated to an activity of investigation which will make it more intelligent than it could be otherwise. The wonderful truths of Christianity justify men in their efforts to become thinkers. If the future presents no prize or gives evidence of some fruits for our toil—man has no interest in it and will have no motive for studying it. Deny to man the truths of Christianity and be will not be conscious of the riches that are in store for him, but with them before him he feels himself a man, a king, an heir of God and immortality and he must advance.

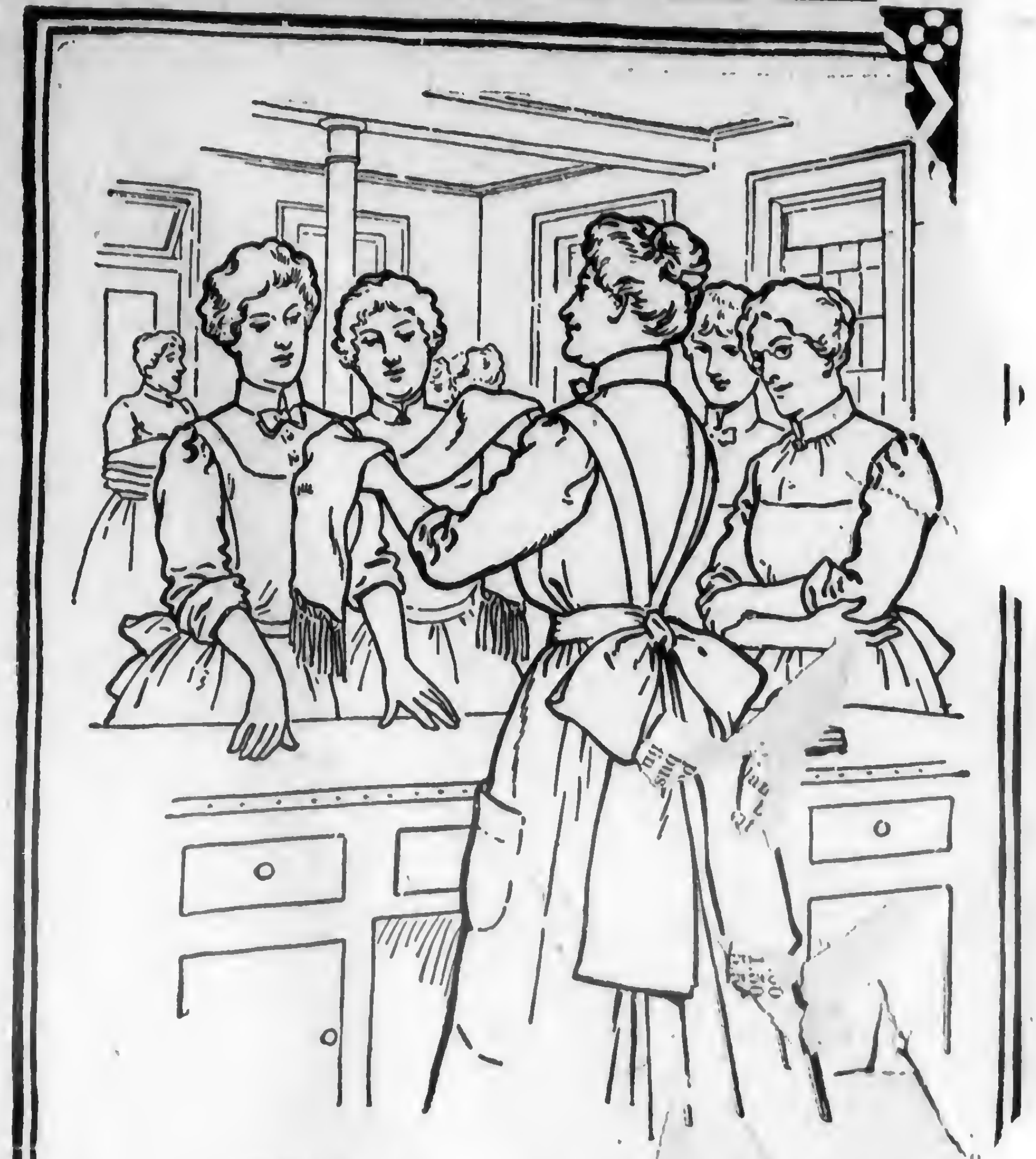
The highest mental progress is born of Christianity and such becomes utilized and applied in civil progress. America stands today as an example of this great harbinger. From wilderness and wild men it takes first place among nations of the earth. Christianity, the good seed sown on good soil. And what Christianity has accomplished it is still accomplishing and ever will until the Gospel has been preached to every creature.

Illinois.

The Things that Test.

M. S. B.

Life is not entirely made up of great evils or heavy trials, but the perpetual recurrence of petty evils and small trials are what try the Christian graces. To bear with the failings of those about us—with their infirmities, their bad judgment, their ill breeding, their perverse tempers; to endure neglect when we feel we deserved attention, and ingratitude when we expected thanks; to bear with the company of disagreeable people whom Providence has [illegible]d in our way, and whom He has pe[illegible]ovided or purposed for the trial [illegible]tue—these are the best tests of pa[illegible]d self denial, and the better because [illegible]osen by ourselves. To bear with vexat[illegible]with disappointment in our expectati[illegible] with interruptions in our retirements. With folly, intrusion, disturbance; in short, with whatever opposes our will, contradicts our humor, this habitual acquiescence appears to be more of the essence of self-denial than any little rigors or inflictions of our own imposing.



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The Home Experience Pool.

Edited by Velma Caldwell M... ...is., to whom all communica... department should be addressed

Editorial ...is the best teacher." This Experience ...weekly Farmers' Institute for the ex... ...actical ideas by practical farmers. We ...ho give their experience, as well as suggest future discussion. We publish this department that all may have the benefit of the tangible experience of others on every subject per... ...o the farm. Let all contribute. A cash prize ...ents will be paid for the best contribution, 25 ...or each other contribution published. The only ...ation is that you are a yearly subscriber to the ...per. Write on one side of paper only. On upper hand corner mark plainly the number of the topic ...rite about. Articles on all topics must be in our ...at least three weeks before publication. Do not ...to suggest ahead topics for discussion. Address ...ations to THE EDITOR, Box 462, Raleigh,

Topic No. 606, Jan. 9.—*Give Your Experience in the Culture of Winter Lettuce in Hothouse, Frames and Open Ground North and South.*

Topic No. 607, Jan. 16.—*Have You Found it More Profitable to Spread Straw and Clover Chaff on the Wheat Fields or to Use it all in the Manure?*

Topic No. 608, Jan. 23.—*Have You Found Currants and Gooseberries Profitable Garden Crops? If so, Give Your Experience in Their Cultivation and in the best Varieties for Market.*

Topic No. 609, Jan. 30. — *Which Breed of Cows is Best for the Farmer who Simply Keeps Them to Supply His Family and Have a Little Butter and Milk to Sell at Times?*

Topic N... 610, Feb. 6.—*Give Your Experience ...the Celery Crop, Varieties, Storing an... andling for Market.*

Topic N... 604.—Has The Practical Farmer Made any Dollars for You in 1903?

P. Nixon, Clinton, Ark.—We are well ...d with our investment in The Practical ...er. Through its influence we bought a ...-horse Planet Jr. cultivator so we could ...ltivate our cotton level and better, and ...e are well pleased with results, as we have ...e best crop of cotton we have seen in the ...ounty. Then our success with second crop ...otatoes we owe to Prof. Massey and The ...ractical Farmer. For our spring crop we ...ted one-third of an acre; in July we dug ...ushels. The first week in August we ...ed same patch with tubers dug in July; ...vated twice; dug Nov. 15 and 16 40 ...els of fine, large potatoes and 4 bushels ...small ones. We will receive for these ...atoes next spring from $1 to $1.25 per ...hel. On another patch we raised some ...e potatoes where we raised a fine crop of corn before we planted the potatoes. Will furnish the State of Arkansas one-half bushel to exhibit at St. Louis fair next year. The Practical Farmer folks can be their own judge.

C. W. Beam, Loyd, N. C.—The principal income derived from reading The Practical Farmer has come to me through thorough culture of all my crops, or more especially the land itself before planting crops. My wheat crop was fairly good, while all around me was more or less a failure, so I sold all my wheat for a fair price to neighbors for seed. Although this has been the most unfavorable year in many for growing crops, I notice that The Practical Farmer subscribers are, as a rule, out of debt and have plenty by them for another year.

A. G. Higgins, Belwood, N. C.—The Practical Farmer made me several dollars in 1903. I find the Postal Card Correspondence a very reliable crop report, so I pinned my faith to what the correspondents had to say in regard to the cotton crop and held my cotton and realized 11 cents a pound, while some of my neighbors received but 9½ cents a pound. I also got ideas how to grow the second crop of Irish potatoes, which paid me well for the work I put into second crop. I learned some things from the Short Cuts page which I would not part with for several times the subscription price of The Practical Farmer. Editor Massey's editorials and Mr. Terry's letters have raised my estimation of my calling about 50 per cent., and I have gotten ideas I would not dispense with at any price and try to farm. I do not know a farmer in this section but who could read The Practical Farmer with profit. I hope its good work will go on like the babbling brook, forever and ever.

Joshua L. Chick, Wells Branch, Me.—This topic suggested to me the importance of saying a word in favor of The Practical Farmer. Have now taken it for twelve years and have never since regretted subscribing for same, and in all probability shall be a reader for some time to come. When I first became ...subscriber in 1892 I considered it then ...orth the price two-fold, and every succeed...g year has seen it steadily advancing in ...e interests of the farmers' welfare, until ...year just past has made a record to be ...oud of. The question asked, "Has The ...ractical Farmer made any dollars for you ...n 1903," I think can be answered by about every subscriber to the valuable weekly in the affirmative. I consider it has made a good many in my favor, Mr. Terry's articles alone benefiting anyone greatly who will follow his teachings. Hope every member of The Practical Farmer family will remain for the coming year.

Mrs. A. A. Watkins, Manson, N. C.—I scarcely ever see a copy of The Practical Farmer that does not give me some information that is worth solid money to me, and would be to anyone who lives on a farm. How can it fail to be worth money to every subscriber if any kind of information is valuable. No matter how much experience one may have there are new things coming to light every day that will be of great benefit to all farmers and housekeepers, and our paper never fails to report all the latest and best. If any contributor does not know a jonquil from a hollyhock the article is corrected or suppressed. Nothing is put in to fill up that has no merit. Last, but not least, it gets its matter from all over the United States, and pays the cash for it, which puts many dollars in people's pockets that have never been overburdened with cash.

Mrs. Lee Hoover, Lincolnton, N. C.—Yes. It was the hints I gathered from The Practical Farmer that enabled me to sell, this year, $60 worth of tomatoes from my garden, which before was never expected to do more than furnish enough vegetables for home use. There are other ways too numerous to mention, in which The Practical Farmer has made and saved money for us. Suffice it to say we will not be without it so long as we need a farm paper.

If your subscription expires Jan. 04., this is the last number of The Practical Farmer you will receive unless you send your renewal subscription. The paper will be brighter and better in 1904 than ever before and you will need its weekly help. Come along with us.

Howard R. Brockett, Bristol, Conn. — The Practical Farmer saved me two dollars, for I received Mr. Terry's book, "Our Farming," free for a club of six names. Each of the six saved fifty cents on the subscription price, so in all we saved five dollars.

J. F. Williams, Findlay, Ill.—Yes. But just how much is hard to reckon. It put me on the road to success in a limited piece of work as a market gardener. From about one and a quarter acres I sold more than $125 worth of vegetables and had all I wanted for my own family and much to give away besides. Then, following Mr. Terry's advice in "Health Hints," along with other hygienic instruction, seemed to restore my health so I could take up my work as a teacher and earn $50 a month during the winter. Vive l' Practical Farmer.

E. G. Richmond, Angola, Ind.—The Practical Farmer has done little this year for me that I can figure in dollars and cents; have barely made a living for self and family, with the most watchful care of the expense account. But it has done far more for me than can be estimated in money. Wife and I have dragged along a miserable existence, not able to help ourselves much of the time, though we made what would be called an heroic strugggle for better health. But the health notes came, and though it was some little time before we could use them in practice, they have been the means of saving us untold misery, and I believe from a much shorter life. In the condition we were we might have known all the best methods on the farm, but could not put them in practice. My health is now better than for many months past, and for months past have taken little or no medicine. My wife, too, is mending and is taking less medicine than formerly to keep heart and kidneys working. We have laid up no money this year, but have laid part of the foundation, which if rightly built upon will make many dollars in the years to come. I have done my best to lay foundations along other lines, too, as I gain strength for the work. We are thankful that we have taken The Practical Farmer, and followed, as far as possible, its instructions in our case.

Ernest Miller, R. 5, Salisbury, N. C.—The Practical Farmer has given me valuable information and made me money in so many ways that I cannot sum up its value in cash. I think that it will be putting it mildly to say that the paper has made me $100 in 1903. In fact, to compare the crops of 1903 with any previous year's yield before 1901, when I began to take the paper, I have more than doubled my income from the farm which I bought in a run-down condition in 1900. The entire crop of 1900 from corn and cotton was worth $95 from the 34 acres, for which I had paid $250. People said that it was so poor I could never make a living on it. But I was tired of renting and wanted a home of my own. I began to read The Practical Farmer and am ever thankful for its valuable information in regard to a thorough preparation and clean and shallow cultivation, especially in dry seasons. By a lot of hard work the income from the little farm increased from $95 in 1900 to $275 in 1901, $550 in 1902, and this year the income from the run-down farm will be nearly $700, the work of one man and one mule. I have changed from cotton to truck farming in the best land, with oats, corn and cow peas in the poorer land. I owe the greater part of my success to peas, rye and crimson clover as cover crops and humus makers, and find that humus is the great factor in insuring success in keeping this rolling sandy soil from washing away. I first learned these facts through The Practical Farmer, and so highly do I value it that I do not see how I could do without it.

Jas. McFetridge, Polk, Pa.—I consider that The Practical Farmer has made dollars for me in 1903, as it was through it that I began to raise potatoes. Other years I would only raise from 25 to 50 bushels, and this year I raised 400 bushels; and if nothing happens I am going to try and reach the 1,000 bushel mark. Otherwise I have also been greatly benefited by The Practical Farmer, and it is the best farm paper that I ever read.

SUMMARY.

That it pays to take and read a good farm paper the letters presented this week show plainly. But it is not only in the way of cash receipts that a farm paper pays. It always has been the effort of The Practical Farmer to inspire its readers with a greater notion of the dignity and importance of their profession, and the broad education needed on the farm. We have always tried to show that the old notion that only the bright boys that were destined to one of the so-called learned professions should be educated, and that the dunce of the family was smart enough to run the farm, has been one of the greatest errors in connection with the farm. Therefore we have always aimed to make The Practical Farmer an educational force on the farm, and to show the importance of a broad education for the young men who are to take the farm in the future. Then, too, we find that when we get a subscriber who reads not only our paper but other farm papers, we have one who is going to stick by us, for he soon realizes that each truly agricultural paper has its special field, and that while some aim to be purveyors of agricultural news and others are devoted to specialties in connection with farming, he still needs a paper that has for its basic object the uplifting of the farmer to better methods, not only through its experts in various departments, but through the comparison of experiences from men in the furrows all over the land, each contributing of what he has learned in the cultivation of the soil and in the management of crops, and aiding in the sum of our knowledge in connection therewith. The Practical Farmer always aims to be just what its title expresses, a paper devoted to practical farming and its improvement, and everything in it is intended to aid in this. Of course when one farms better and improves his soil he can get more cash out of it. But the mere getting of more money is not the sole object of improved farming. The making of beautiful and happy homes all over the land, the showing that farming is not all drudgery and that there is room continually near the top for more and more educated farmers. The reading farmer, then, has a responsibility in his neighborhood. As the paper succeeds in helping him to a better use of the Creator's gifts in the soil, should he not try to let his light shine among those still struggling with little light, and as the paper has helped him, why not induce his neighbors to try to get the same help. The Editor of The Practical Farmer, and everyone on its staff, have for their highest aim the elevation of the farm life of the whole country. Not only to make men more prosperous financially, but to make them better men, better citizens and more helpful to their fellow men. Let us then begin the new year with the determination as editors and readers all to do our full part in this great work of improving mankind, making better farmers and better men, leaders in their neighborhoods and not mere followers in the ruts their grandfathers made.

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Our Farming Free!

Make up a block of six yearly subscribers to The Practical Farmer at 50 cents each, send us the $3 for the same, and we will send you a cloth bound copy of Our Farming absolutely free. Our Farming is written by T. B. Terry, and describes how he brought up a run-down farm to be the most valuable one in Ohio. Interesting as a romance, but every line true. 367 pages, handsomely illustrated.

Shall we Send it?

A Quart Baby.

Now and again there is an item in the newspapers concerning the birth of a puny baby so small that a quart cup holds it comfortably. If the article told all the facts it would probably tell also of a mother who in weakness and misery had looked forward to the baby's advent with shrinking and fear.

To have fine, healthy children the mother must be healthy, and it is the common testimony of mothers that the use of Dr. Pierce's Favorite Prescription not only promotes the mother's health but also gives her strength to give her child.

"Favorite Prescription" accomplishes these results by tranquilizing the nerves, promoting a healthy appetite, and giving refreshing sleep. It increases physical vigor and gives great muscular elasticity, so that the baby's advent is practically painless. It is the best of tonics for nursing mothers.

"I gladly recommend Dr. Pierce's Favorite Prescription," writes Mrs. J. W. G. Stephens, of Mila, Northumberland Co., Va. "Before my third little boy was born I took six bottles. He is the finest child and has been from birth, and I suffered very much less than I ever did before. I unhesitatingly advise expectant mothers to use the 'Favorite Prescription.'"

Dr. Pierce now feels fully warranted in offering to pay $500 in legal money of the United States, for any case of Leucorrhea, Female Weakness, Prolapsus, or Falling of Womb which he cannot cure. All he asks is a fair and reasonable trial of his means of cure.

Dr. Pierce's Common Sense Medical Adviser, containing 1008 pages, is sent *free* on receipt of stamps to pay expense of mailing *only*. Send 31 one-cent stamps for the cloth-bound volume, or only 21 stamps for the book in paper covers. Address Dr. R. V. Pierce, Buffalo, N. Y.

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GENTLEMEN:—I have now used "International Stock Food" for more than two years and I cheerfully recommend it to all feeders of sto... especially for hogs. It increases the appetite, prevents disease, promotes ...gestion, enhances the value of the grain fed, increasing the weight, and i...res a thrifty condition of stock at all times. My neighbors have repeated... sustained heavy lo... in their herds while mine have remained almost im...e, ...result I attrib... ...most wholly to the specific effects of "Internat... Stock Food."

Respectfully yours, G. W. SHA...

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We own "International Stock Food Farm," which is located 12 miles from Minneapolis and contains 650 acres. We feed "International Stock Food" every day to all our WORLD CHAMPION STALLIONS, DAN PATCH 1:56¼, DIRECTUM 2:05¼ and Roy Wilkes 2:06½; and also to our YOUNG STALLIONS, BROOD MARES, COLTS, WORK HORSES, CATTLE and HOGS. "INTERNATIONAL STOCK FOOD" 3 FEEDS FOR ONE CENT is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite, Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It will make your Calves, Colts or Pigs grow amazingly and will keep them healthy. It is Absolutely Harmless even if taken into the Human System. You insist on eating the following medicinal ingredients with your Own food at every meal: Table Salt is a stomach tonic and worm medicine, Table Pepper is a powerful stimulating tonic, Table Mustard is a remedy for dyspepsia, Table Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these medicines promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High-Class Farm Paper and Over One Million Progressive Farmers and Stockmen. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World, and has the Largest Sale ever known. Your Money will be Promptly Refunded in Any case of failure. We Refer You To Any Bank Or Wholesale House In Minneapolis. Beware of the many Cheap and Inferior Imitations now on the market! No Chemist can separate and name all the Different powdered Roots, Herbs, Barks and Seeds that we use in our preparations. Any Chemist or Manufacturer claiming to do so Must be an Ignoramus or a Falsifier. Imitations Are Always Inferior. Insist On Having The Genuine And You Will Always Obtain Paying Results.

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Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Southwest Texas, in Guadalupe Co., on Southern Pacific R. R. This is a farming country. Our principal crops are cotton, corn, oats, sorghum and vegetables. Almost all kinds of fruit do well here. Crops of all kinds very good, with the exception of cotton, which made from one-quarter to one-half bale per acre in black land, and about one-tenth bale in sandy land; would have made one bale per acre, but boll weevils cut the crop short. Weather for gathering crops has been favorable but too dry for fall plowing. Prices: Cotton, 11c. per lb.; corn, 50c.; oats, 50c. per bu.; sorghum hay, $5; prairie hay, $8 per ton; butter, 25c. per lb.; eggs, 20c. per doz.; land varies in price from $10 to $60 for improved land; horses, $25 to $150; cows, $20 to $35 each; good mules, $200 per pair. A. E. GOVETT.
R 2, Seguin Tex., Dec. 12, 1903.

In Southeastern Alamance, near Haw River. We have fine weather; scarcely any storms that damage. Good water; health generally good. Prices: Wheat, $1; corn, 60c.; peas, $1; potatoes, 40c. per bu.; butter, 20c. per lb.; eggs, 20c. per doz.; horses and mules a good price; beef cattle scarce; milch cows, from $20 to $30 each. Long live The Practical Farmer. LEROY FERGUSON.
Manndale, N. C., Dec 14, 1903.

Located at the queen city of the Alleghanies, Cumberland, Md., the most beautiful city in the State of Maryland; the centre of seven railroads; the B. & O. yard, round house, tin mill, steel mill and rail mill are located here, thus making the city prosperous. Fine farms here. Farm products rank high. Beef, 10 to 14c. per lb.; potatoes, 75c. per bu.; butter, 35c. per lb.; eggs, 35c. per doz.; hens, 14c. per lb.; beans, 40c. per gal.; milk, 7c. per qt.; apples, 85c. per bu.; pork, 12c.; turkeys, 14c. per lb.; pears, $1 per bu. The Western Maryland extension of the Wabash R. R. passes through here, thus making one of the most prosperous farming counties in the State. L. WALKER.
S. Cumberland, Md., Dec. 16, 1903.

Located in Powhatan Co. This is a tobacco county; raise the celebrated English stripping tobacco, which has gotten so low in price that the farmers cannot grow it; we used to get from 8 to 12c., now only get 4 to 6c. Wheat was a failure; hay fair; corn, two-thirds crop; no peaches; apples good. Wheat, 80 to 90c. per bu.; hay, $12 to $15 per ton; corn, 48 to 52c. per bu.; butter, 25 to 30c. per lb.; eggs, 30 to 35c. per doz. Very cold and dry November. Farm help scarce; wages, $8 to $10 per month. No farmers follow the teachings of The Practical Farmer. No peas sowed and but little clover grown. We have naturally very fine lands; heavy chocolate loam. There are many farms for sale, very cheap. We have fine, healthy country; schools, churches and mills convenient. Not a full crop of wheat or oats seeded this fall; corn all cribbed; farmers impatient for season to "strike" tobacco. Land from $5 to $15 per acre, according to location and improvements. I. S. WINFREE.
Subletts, Va., Dec. 16, 1903.

Located in North Central Ohio, Ashland Co., 65 miles South of Lake Erie, midway between the Pennsylvania R. R. and the Erie system. Have a short railroad joining the two above-named railroads, and called the A. & W. Road. All the products of this rich valley go out on the P. R. R. Cattle, sheep, hogs and poultry are shipped out by the thousand. Wheat, oats, corn, potatoes, hay and saw logs by the train load. Prices: Cattle, 3½ to 5c. per lb.; hogs, $4.40 to $4.65; sheep, $3.75 to $4.75 per cwt.; potatoes, 45 to 55c.; wheat, 80c.; oats, 35c.; corn, 44 to 48c. per bu.; butter, 15c. per lb.; eggs, 28c. per doz.; apples, 50c. per bu.; chickens, 8c.; ducks, 9c. per lb. Winter caught farmers with whole fields of corn yet to husk. Happy New Year's to all the readers of The Practical Farmer. M. K. SEIBERT.
Lake Ford, O., Dec. 15, 1903.

Located in southwest corner of St. Joseph Co., Indiana. General farming is the go here. Corn mostly cut with binders so it can be hauled to the shredder. Husking with shredder seems to meet a long felt want. People seem to be afraid of silo, as in places cities prohibit milk to be sold from cows fed on ensilage; health boards seem to be afraid of using it; on account of corn being late, one-third of the corn is to husk yet, otherwise corn was good; hay was good; oats medium; wheat good; potatoes good size but few in number and inclined to rot. Roads good; 8 inches of snow. People contented. Market prices: Horse, $100 to $200; cows, $20 to $50 each; wheat, 85c.; oats, 32c.; clover seed, $5 per bu.; butter, 14c.; lard, 10c. per lb.; corn, 40c. per bu.; farm help, $1.25 per day. Healthful climate; roads on every section line; fences mostly wire. Good churches and schools. JACOB LONGANECKER.
North Liberty, Ind., Dec. 14, 1903.

Located in Greenwood Co., Kan. The fall has been favorable to animals and fall work. There has been scarcely any disagreeable weather; Nov. 30th our first snow; all gone soon. Had a light frost early, but tomato vines, etc., were not killed, except on the low lands, until the middle of November. All crops good except in low places; no apples, peaches, etc. The peach orchards on the highest land were full of fruit. All kinds of grain raised here did well except where put in too late. Corn is selling for 32c. per bu.; many holding expecting higher price; wheat, 60c. per bu. Considerable wheat sown, which looks very promising; also the fall sown alfalfa and English blue grass. Many people coming in and buying old and high priced farms. Rent farms are also in great demand, but most are rented from one-half to a year ahead, for from $3 per acre up. Pasture land is rented from agents at a comparatively low figure and cattle are taken to pasture for $3 for the season, some for less, and some more. Health good, both people and stock. Not many full feeding cattle this winter; afraid of future market. MRS. V. W. GRIBLIN.
Virgil, Kan., Dec. 12, 1903.

This place is situated among the Sacramento Mts., 20 miles from Cloudcroft, the great summer resort of Texas. Mountains covered withe magnificent pine trees. Lumbering quite an industry. This year has brought the first drought in the history of the country. Plenty of early corn raised, but frost came before matured. Three crops of alfalfa raised by irrigation; potatoes killed by insects. Gardens also greatly injured by same. Fruit killed by late freeze. Cattle are being driven from this section on account of scarcity of grass. No market for cattle. Corn sells at 65c. per bu.; alfalfa hay, $15 per ton; chickens, 25 to 30c. each; butter, 25 to 30c. per lb.; eggs, 25 to 30c. per doz.; apples, 4½c. per lb., retail, 1½c. in quantities. JAMES N. JOHNSON.
Mayhill, N. Mex., Dec. 10, 1903.

Situated in Southern Indiana, on Ohio River. We had an exceptional season, full of contraries and disadvantages; a cold, wet spring, extending until middle of June; very few hot nights during the whole summer; a terrible cloudburst and flood in Iowa. Crops had to be replanted several times and most all planted late; but we had an exceptionally late fall; no frost on upland until late in November, so corn matured very well. Prices: Corn, 40c.; wheat, 80c. per bu.; timothy, $11 to $13; clover, $9 to $10; straw, $6 to... per ton; Irish potatoes, $1; sweet potat... 80c. to $1; beans, $2.50 per bu.; butter, ... per lb.; eggs, 28 to 30c. per doz.; chick... 8 to 10c.; cattle, 3 to 3½c. and hard to s... hogs, 4 to 7c. per lb., on foot; calves, 5... per lb.; apples, 80c. to $1 per bu.; an im...mense lot of them has been shipped; b... and ship stuff, 90c. to $1; hominy meal, $1... per 100 lbs. G. CAMERE...
R 1, Madison, Ind., Dec. 13, 1903.

A Thing Worth Knowing.

No need of cutting off a woman's breast or a man's cheek or nose in a vain attempt to cure cancer. No need of applying burning plasters to the flesh and torturing those already weak from suffering. Soothing, balmy, aromatic oils give safe, speedy and certain cure. The most horrible forms of cancer of the face, breast, womb, mouth, stomach; large tumors, ugly ulcers, fistula, catarrh; terrible skin diseases, etc., are all successfully treated by the application of various forms of simple oils. Send for a book, mailed free, giving particulars and prices of Oils. Address DR. D. M. BYE CO., Drawer 505, Indianapolis, Ind.

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$65,000 (MADE IN 7 MONTHS)

I CAN give a few parties who can secure $500 to $3,000 a very paying business, choice locality. I have an article or machine valuable to all farmers and stock raisers. With the help of three farmers I made, **clear, over $65,000 in seven months.** Sales in one county, **$12,360.** The like never before known. Call in person. I pay half car fare, whether you invest or not, and give best bank references. I can show customers who made clear from $1,000 to $4,000 in thirty days. Fairness to all. W. R. WHITE, 70 times patentee. Office Eddy Building, Bloomington, Ill.; Home 612 N. East St.

YOU LOSE YOUR TEMPER with a bad axe, but you don't draw temper while you grind eight times as fast as emery wheels on the electric diamond stone, Carborundum, making 4,000 revolutions a minute with the

Bi-Pedal Sickle and Tool Grinder.

For Sickles, Edge Tools, Saw Gummer and Polishing Machine, 4 in one. Special to Farmers: $24 worth of machinery for $6.80. Ten Days Free Trial. Return at our expense if not satisfied. Ask for beautiful free sample of carborundum and booklet. Agents Wanted. F. Luther Bros. Company, ... Penn St., N. Milwaukee, Wis.

FREE. This booklet tells how to make money in the farm, and outlines our course of home study in **Modern Agriculture,** Under Prof. Wm. P. Brooks, Ph. D., of the Mass. Agricultural College. Treats of soils, tillage, drainage, fertilizers, crop rotation, stock-feeding, poultry-raising, dairying, etc. Also Horticulture under Prof. Bailey, of Cornell University, and Agricultural Bacteriology under Prof. Conn, of Wesleyan. Full Normal and Academic departments. Tuition nominal. Text-books free to our students. *Cata. and particulars free. Write to-day.* THE HOME CORRESPONDENCE SCHOOL, Dept. 19 Springfield Mass.

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a planter that w... "Hamilton" Com... chine on ... crop. W... THE...

Farm Implement Annex

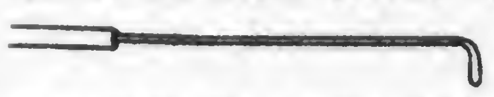
To The Practical Farmer.

. is the purpose of this department to assist P. F. ders in securing the best implements and machin- for doing their work, and to so adjust, manage and for same as to get the best possible returns from r use. We invite subscribers to write us fully and ly in regard to farm implements and machinery. nters on selecting implements for various kinds of k and soil; on buying, operating and caring for m; their defects, improvements, attachments, ad- ments, etc., will be welcome. A cash prize of 50 s for the best contribution, and 25 cents for each r contribution published, will be paid to P. F. rly subscribers. Put at top of each article "For m Implement Annex," and send to Geo. T. tt, Box 32, Oneida, Kan.

he Corn Shocker.—Nearly all of the n here is cut up for fodder in one way or other. All kinds of implements are used this work; corn knife, sleds for cutting or two rows at a time, corn binders, etc. latest implement, however, is the corn cker. Several of these were sent out and d last year, but proved to be a failure. is year one of my neighbors has a McCor- k shocker and it is a success. It cuts one at a time, similar to the corn binder, collects it around a central shaft which arms at the bottom. When a shock has n cut it is tied at the top and raised by ns of rope and pulley, which is attached vindlass at one end and to shaft at the r. It is swung around out of the way then tripped, which allows the shock ll with sufficient force to settle it firmly lace. So far none of these shocks have n any inclination to twist down, which one great trouble with a similar machine year. M. L. HOBART.

2, *Morral, O.*

or Cutting Berry Canes. — We had blacksmith make us a knife from a steel y rake tooth for cutting old canes from berry bushes. The tooth was first ightened, then one end was bent at right gles to the main part to form a blade about inches long. This portion was flattened n and ground sharp, then tempered. On other end a wooden handle was fastened that when finished it looked something e the illustration herewith.



Spafford, N. Y. E. E. LAWRENCE.

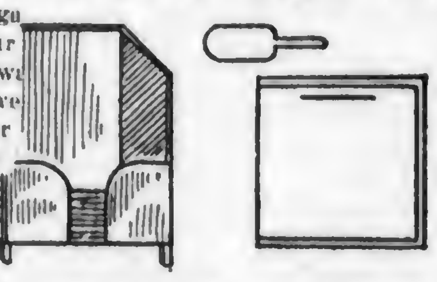
To Keep Leather Harness Pliable.— is a well-known fact that leather articles pt in stables are liable to become hardened. usual applications of grease will not al- ys prove equal to the task of softening m, but if a small quantity of glycerine is ded to the grease, the leather will be kept tinually in a soft and pliable condition.

Oakdale, N. C. LONA KIMSEY.

Basket Hay Rack.—A basket hay rack made by building a frame two or three t high around the platform of the rack. th a rack like this, one man can load all sheaf oats that a team can pull; that without having a man on the wagon. Also aw and short hay can be hauled without y danger of it slipping off. E. C. LYON.

Dawn, Tenn.

Box for Mixing Feed.—A box like this, x22 inches in size and 15 inches deep, con- ucted of matched boards and sloping to ntre and to open end, and high enough to w a pail to be slipped under to catch the water which has been poured over the aw or hay before adding the meal, is and easiest way to prepare the grain



n for thorough digestion and to secure best results. A loose end is used, laid oping, until feed is mixed and ready ke out into feed box. A thin board ladle be used for mixing and removing feed, I find the hand is quickest. Of course, water can be used until absorbed.

alem, N. Y. MYRON C. SAFFORD.

About Stoves.—I must tell you how nice have it, and will have it from now until ing with our hard coal heater. We have n using a soft coal stove (Moore's air- ht), but give me the old hard coal base ner. Then you put in a bucket of coal e a day and unless the weather is very it will be warm alike day and night. keeps an even temperature and you do not ve to be forever fixing the fire. In the ning shake down the ashes and put in a et of coal, which is all it will need until ng unless it is very cold, then we put cket of coal twice a day and open the occasionally to let it burn up. We he stove going this morning and if goes right it will not go out until her next spring. There is no ot and the coal is clean. Ashes once in two or three days in her; they are light and white. l coal stove rather than soft y one and you will say so,

J. L. RITCHIE.

seful and cheap as the ny farmers who do home ought to be t as the days ill, winter and in e done by lan- table to work. ensable as a s a heater. has a trip to make in wagon or other vehicle, a lighted lantern placed between the feet and covered with blanket or lap robe, will keep the feet warm. One lantern will do for two persons. I know of this, that it is the best possible way to keep the feet warm when traveling. I have used heated bricks, which do very well if you will stop and heat them every few hours. S. B. FICKLE.

Blountville, Tenn.

◆

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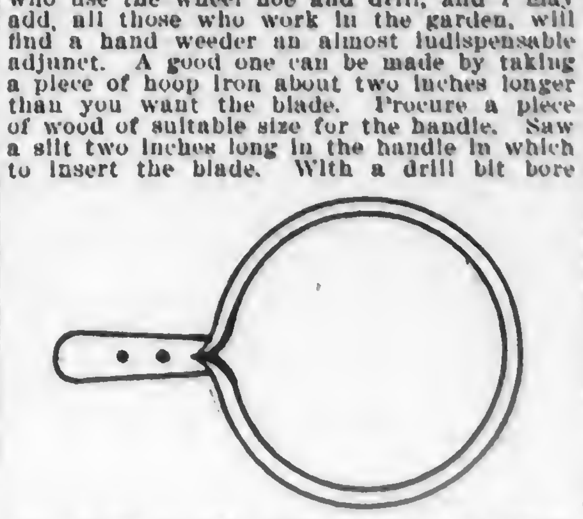
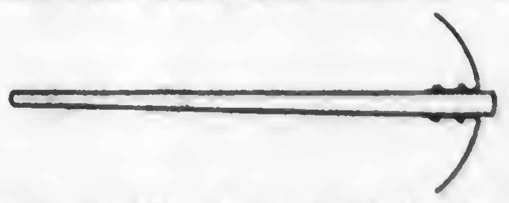
◆

Hand Weeder Indispensable.—Those who use the wheel hoe and drill, and I may add, all those who work in the garden, will find a hand weeder an almost indispensable adjunct. A good one can be made by taking a piece of hoop iron about two inches longer than you want the blade. Procure a piece of wood of suitable size for the handle. Saw a slit two inches long in the handle in which to insert the blade. With a drill bit bore two holes through both handle and blade. For rivets insert in the holes pieces of wire cut to the proper length. Place copper rivet burrs over the rivets and rivet. Now grind one edge and the point, which should be square and sharp, and your knife is complete.



Carlisle, Ind. W. D. LATSHAW.

Good Garden Tool. — I send you a sketch of a very handy device to kill weeds around plants which stand thickly upon the ground. I make the hoe out of a piece of buggy spring and the handle of hickory. The cut shows how to connect them to handle, the hoe part being in two pieces.



Gainesville, Ga. WATSON L. ROPER.

◆

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